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Paper TRADE JOURNAL

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VOLUME 127, No. 18 OCTOBER 28, 1948

For *Faster* Tints

on unbleached Kraft and Sulphite

Geigy has prepared a most useful daily reference for the tinting of unbleached Kraft and Sulphite. It takes the form of a folio with 42 illustrations of tints of straight colors and combinations on each stock (84 altogether), arranged in a manner perfect for matching shades. Daresay the vast majority of the standard shades of tints required for bagging, counter rolls, butcher's wrap, envelope and all the better grades of wrapping paper are already matched for you in this folio. Moreover, these tints are produced with colors of *better fastness* to light, water-bleed and alkali.

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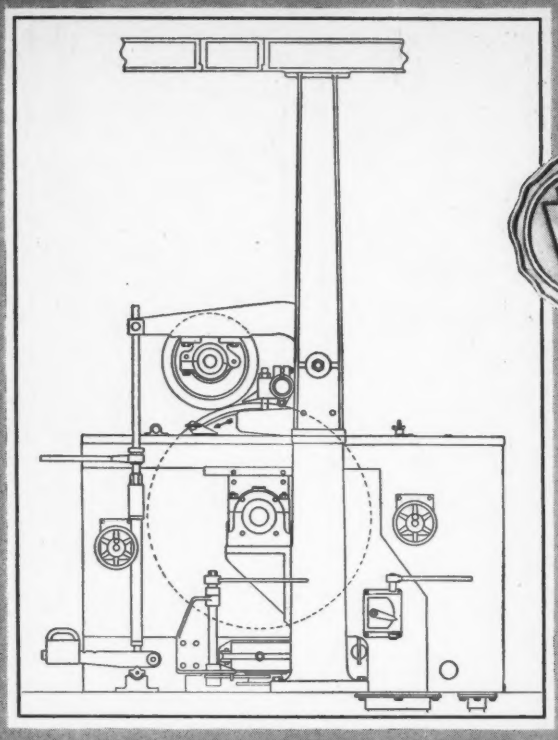

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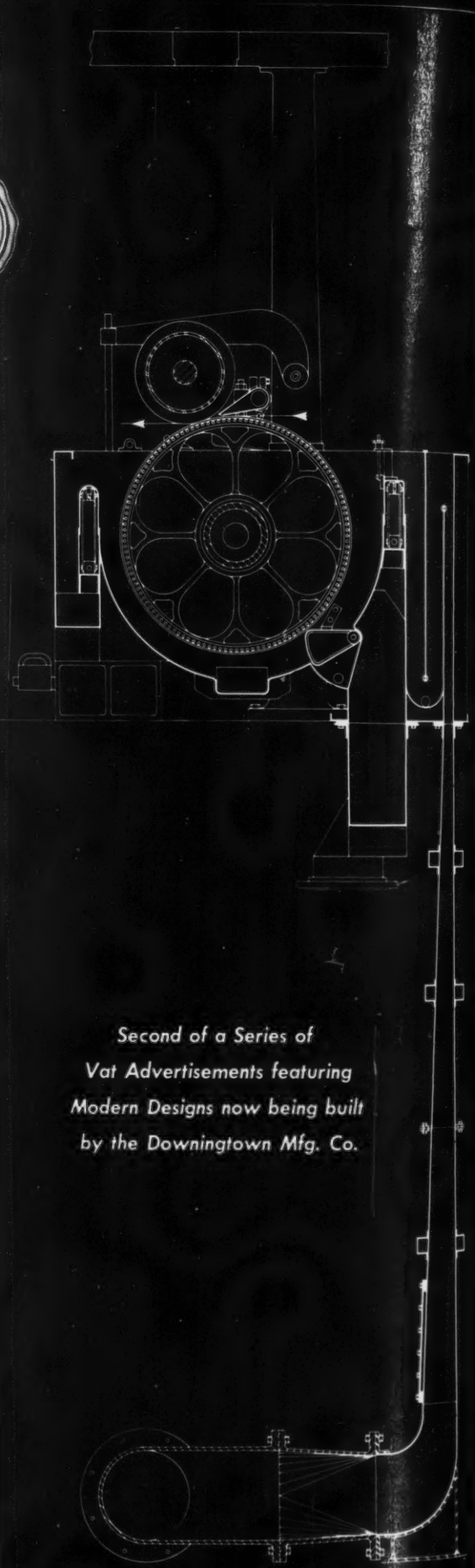

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MEMBER

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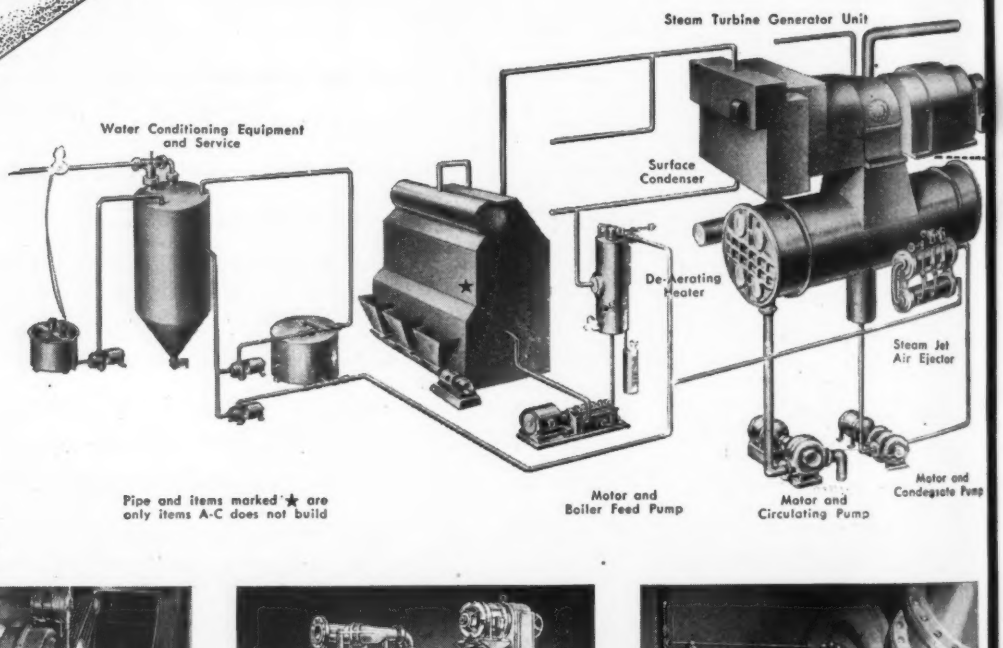
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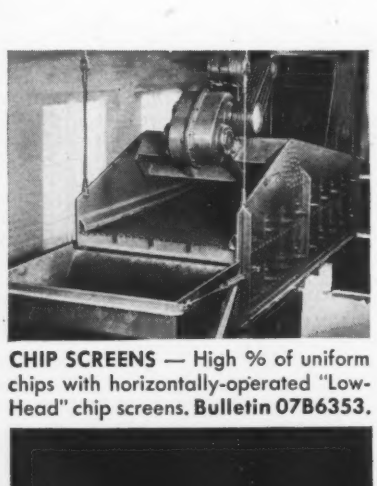

CHIP SCREENS — High % of uniform chips with horizontally-operated "Low-Head" chip screens. **Bulletin 07B6353.**

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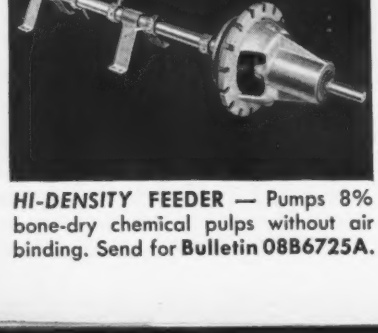
TURBO-BLOWERS — Furnish large volumes of clean air at controlled pressures. Send for **Bulletin 16B6048A.**



***HI-DENSITY* FEEDER** — Pumps 8% bone-dry chemical pulps without air binding. Send for **Bulletin 08B6725A.**

KNOTTERS — High quality pulp . . . low fiber loss with A-C's "Low-Head" knotting screens. **Bulletin 07B6353A.**

ROTARY KILNS — A low-cost method of reburning lime sludge for sulphate pulp process. **Bulletin 07B6368.**

Paper TRADE JOURNAL
Reg. U.S. Pat. Off.

OCT. 28, 1948

VOL. 127, NO. 18

Federal Trade Commission Complaint 5592

Fine and Wrapping Paper

Challenged by National Paper Trade Association

WASHINGTON—The National Paper Trade Ass'n. of the United States, Inc., 220 East 42nd street, New York, 23 regional paper trade associations and nearly 100 paper distributors are charged in a Federal Trade Commission complaint with engaging in an unlawful combination to fix prices and otherwise eliminate competition in the sale of fine and wrapping paper. The complaint also names as respondents 22 individuals who are officers of one or more of the trade associations, the Federal Trade Commission reported on October 26.

Charging that the merchant members of the various trade associations "constitute a group so large and influential that they are able to substantially dominate and control the market," the complaint alleges that the collusive practices of the respondents have empowered them to "enhance" the prices of paper products above those which would prevail "under a condition of natural, normal, and free competition" and have actually increased the prices paid by purchasers. Another result is said to be a "dangerous tendency to create monopoly."

The paper merchants are jobbers, wholesalers and other dealers engaged in buying and selling the paper products described in the complaint.

Pursuant to a conspiracy to eliminate price and other competition, the complaint says, the respondents have engaged in the following practices:

Agreed upon uniform and identical prices for both fine and wrapping paper.

Classified the products and agreed upon uniform and identical prices to be charged for products falling within each classification.

Agreed upon uniform and identical additions to prices and deductions from prices to be applicable to products within each classification.

Adopted and put into use a uniform system of cost accounting so that all merchants using the system would arrive at uniform and identical cost figures.

Agreed upon uniform and identical mark-ups to be used in arriving at selling prices.

Agreed upon and used a uniform and identical system of delivery cost allowance and freight equalization, so that, regardless of variations in cost of delivery from the places of business of the respondent merchants to the places of business of purchasers, the same delivered prices are quoted and charged by the respondent merchants.

Agreed upon and made uniform charges for cutting or trimming of paper where these services were necessary to meet a purchaser's specifications.

Agreed upon uniform prices to be submitted to Federal, State and municipal agencies in response to invitations for bids.

Classified all members of the trade from manufacturers to retailers and defined the class of customers to whom the members of each classification could sell, with enforcement effected through various means, including boycott and threats of boycott.

JAMES J. EBERL

—named director of chemical research of the Scott Paper Co., Chester, Pa. . . . His assignment will involve chemical engineering and research, as applied to all Scott paper and pulp mills and he will also be available as a staff consultant.

Agreed to abide by the prices, pricing policies and trade practices of the appropriate regional association when soliciting business or making sales in its territory and to notify their regional association and the national association of any infractions of pricing policies "in order for pressure to be brought to bear upon the offending merchant to cease such infractions."

Disseminated "at frequent intervals" among themselves and through their associations, pursuant to agreement, current and future quotations of prices, terms and conditions of sale offered to the trade by various respondent merchants.

Established a system of "policing" the industry whereby deviations from fixed prices are reported to the local member association.

Held meetings at which prices, terms and conditions of sales, and trade practices and policies designed to eliminate competition in price and otherwise were discussed and acted upon.

The complaint alleges that booklets setting out in "minute detail" a pricing formula for quoting prices on fine and wrapping paper have been prepared and circulated among members of the industry by the national association. These booklets, the complaint charges, are prepared with the aid and cooperation of the regional associations and their members "in order to remove and prevent any possibility of a merchant quoting an erroneous price."

According to the complaint, the booklets set forth, among other things, the different classifications in which the different types of paper are placed; the cost of paper to the merchants; the mark-ups in percentages and in dollars and cents; the selling prices; specific additions to prices applicable to various quantities and qualities; and specific deductions from prices applicable to the various qualities and quantities.

The publication for the fine paper trade is known as the *Blue Book*, while that governing wrapping paper sales is known as the *Brown Book*, the complaint notes, adding that the *Brown Book* was compiled and put into use after the demise of the Office of Price Administration. It was preceded, the complaint says, by a *Green Book* and a

(Continued on page 30)

October Pulp and Paper Industry Report

U. S. Department of Commerce

WASHINGTON — Total 1948 production of paper and paperboard in this country probably will be close to 22,250,000 tons, an all-time yearly record, and approximately 1,220,000 tons more than was turned out in 1947, according to the October *Pulp and Paper Industry Report,* issued by the Department of Commerce on October 22.

Preliminary information from Department field offices indicates that output of these items during October may exceed all previous monthly highs.

The Department's report states that renewed buying interest was noted among paper distributors and converters in September and the early weeks of this month. W. L. Neubrech, chief of the Pulp and Paper Section, Office of Domestic Commerce, attributes this development partly to normal seasonal pickup, and partly to a general feeling that price declines will not occur during the remainder of the year.

Also distributors and converters who allowed their inventories to decline during the summer months now are anxious to maintain stocks adequate to meet brisk market demands. However, "merchants appear to feel that the industry has settled down to old-fashioned hard business policy tactics," according to the report, and no heavy inventory building is looked for at prevailing prices.

A detailed review of developments in

Trends in Wood Pulp, Waste Paper, Paper and Board: Selected Items for August 1948
Compared with Selected Previous Months

Item	1000 Short Tons August 1948	Percent Change August 1948 Compared with :- Aug. 1947	Sept. 1947	Oct. 1947	Jan. 1948	March 1948	April 1948
Wood Pulp Consumption, All Grades, By Class of Mill							
Total - All Classes of Mills	1268	↑11.9	↑16.3	↑ 5.4	↑ 5.5	↑ 4.1	↑ 5.0
Paper Mills	690	NA	NA	NA	- 1.9	- 2.6	- 2.8
Paperboard Mills	472	NA	NA	NA	↑16.5	↑13.7	↑15.7
Wet Machine Board Mills	0.4	NA	NA	NA	Nil	Nil	Nil
Building Board Mills	106	NA	NA	NA	↑14.0	↑10.4	↑15.2
Waste Paper Consumption By Class of Mill							
Total - All Classes of Mills	606	- 6.9	- 5.0	-11.4	-10.2	-14.1	-11.4
Paper and Building Board Mills (combined)	142	NA	NA	NA	- 6.6	-17.5	- 2.7
Paperboard Mills	459	NA	NA	NA	-11.6	-12.6	-14.1
Wood Pulp Consumption, All Grades, Purchased vs Own Pulp, In Paper and Board Manufacture							
Total Consumption - All Mills	1268	↑11.9	↑16.3	↑ 5.4	↑ 5.5	↑ 4.1	↑ 5.0
Consumption Own (integrated) Pulp - All Mills	1051	↑14.6	↑20.0	↑ 8.9	↑ 8.5	↑ 6.1	↑ 7.0
Consumption Purchased Pulp - All Mills	217	↑ 0.5	↑ 1.4	- 8.8	- 6.9	- 5.6	- 4.0
Consumption Purchased Pulp - Non-Integrated Mills Only	146	NA	NA	NA	- 4.6	- 5.8	- 4.0
Consumption Purchased Pulp - Partially Integrated Mills Only	71	NA	NA	NA	-11.3	- 2.7	- 4.1
Sulphate Wood Pulp Consumption, Purchased vs Own Pulp, In Paper and Board Manufacture							
Total Consumption - All Mills	598	↑18.2	↑27.0	↑12.8	↑ 9.9	↑ 8.3	↑10.1
Consumption Own (integrated) Pulp - All Mills	540	↑21.6	↑32.0	↑17.1	↑14.2	↑11.5	↑13.4
Consumption Purchased Pulp - All Mills	58	- 6.5	- 6.5	-16.0	-18.3	- 14.4	-14.4
Consumption Purchased Pulp - Non-Integrated Mills Only	36	NA	NA	NA	-21.7	-20.0	-20.0
Consumption Purchased Pulp - Partially Integrated Mills Only	22	NA	NA	NA	-12.0	—	- 4.4
Paper, Paperboard, Wet Machine Board and Building Board Production							
All Types, Total	1874	↑ 6.3	↑ 9.0	- 1.3	↑ 0.4	- 2.9	- 1.8
Paper, Total	937	↑ 5.0	↑ 7.3	- 2.0	- 1.3	- 2.2	- 1.7
Newsprint	76	↑ 8.6	↑ 8.6	↑ 7.0	↑18.8	↑15.2	↑ 7.0
Ground Wood	67	- 2.9	↑ 3.1	-10.7	- 7.0	- 7.0	- 4.3
Book Paper	187	↑ 3.3	↑ 3.9	- 7.0	- 5.1	- 4.1	- 4.1
Fine Paper	100	- 3.9	- 2.0	- 9.9	- 6.6	- 5.7	- 3.9
Coarse Paper, Total 1/	274	↑10.5	↑17.6	↑ 6.2	↑ 3.4	↑ 1.9	↑ 3.4
Wrapping, Total	67	- 2.9	↑ 3.1	- 1.5	- 5.6	- 1.5	- 2.9
Kraft Wrapping	32	↑10.3	↑10.3	↑ 3.2	- 3.0	↑10.3	↑ 3.2
Bag paper	63	↑21.2	↑20.0	↑18.9	↑12.5	↑16.7	↑16.7
Shipping sack	58	↑20.8	↑28.9	↑13.7	↑ 9.4	- 1.7	- 3.3
Converting	76	↑11.8	↑13.4	↑ 2.7	↑ 5.6	- 1.3	↑ 5.6
Special Industrial Paper	22	↑10.0	- 4.4	-12.0	-15.4	-24.1	-18.5
Sanitary Paper	80	↑11.1	↑11.1	↑ 2.6	- 1.2	- 1.2	- 6.0
Tissue Paper	19	—	—	—	- 5.0	- 9.5	- 5.0
Absorbent Paper	8	—	—	-11.1	-20.0	-20.0	-20.0
Building Paper	103	↑ 1.0	↑ 3.0	- 5.5	- 1.9	- 6.4	- 2.8
Paperboard, Total	799	↑ 5.8	↑ 9.5	- 2.0	↑ 0.4	- 5.0	- 3.9
Liners	316	↑23.0	↑29.0	↑13.7	↑16.2	↑ 8.2	↑ 7.5
Corrugating Material	101	-12.2	-11.4	-17.9	-15.1	-21.1	-17.2
Container Chip and Filler Board	26	-10.4	↑ 4.0	—	-10.4	—	—
Folding Boxboard	175	- 2.2	—	-10.7	- 5.9	- 7.9	- 5.9
Set-up Boxboard	48	- 5.9	—	-15.8	- 4.0	-11.1	- 9.4
Cardboard	7	↑40.0	↑16.7	-12.5	↑16.7	—	—
All Other Paperboard	126	↑ 5.0	↑ 8.6	- 0.8	- 6.7	-13.1	-11.9
Wet Machine Board, Total	10	-16.7	-16.7	-23.1	-16.7	-23.1	- 9.1
Building Board, Total	127	↑21.0	↑21.0	↑10.4	↑15.5	↑ 8.5	↑13.4

Note: Percentage changes for small tonnage items in particular are relative only since percentage calculations were made on rounded tonnage figures
NA Not available
1/ Sub-classifications do not add to Coarse Paper total owing to omission of several categories

Source: Prepared by Pulp and Paper Section, Forest Products Division, Office of Domestic Commerce from Bureau of the Census data.

the industry during the past twelve months prefaces the Commerce Department report. Summarized, developments reported were as follows:

A return of prewar standards of quality in many items. This is indicated by Bureau of the Census figures showing increases in the ratios of pulp consumed to finished products. Paperboard mills used nearly 14 percent more pulp in August than in March, yet turned out five percent less board. Overall consumption of pulp in paper and board manufacture in August was four percent greater than in any previous month in the history of the industry, while output of finished product was from one to three percent lower than in former record months.

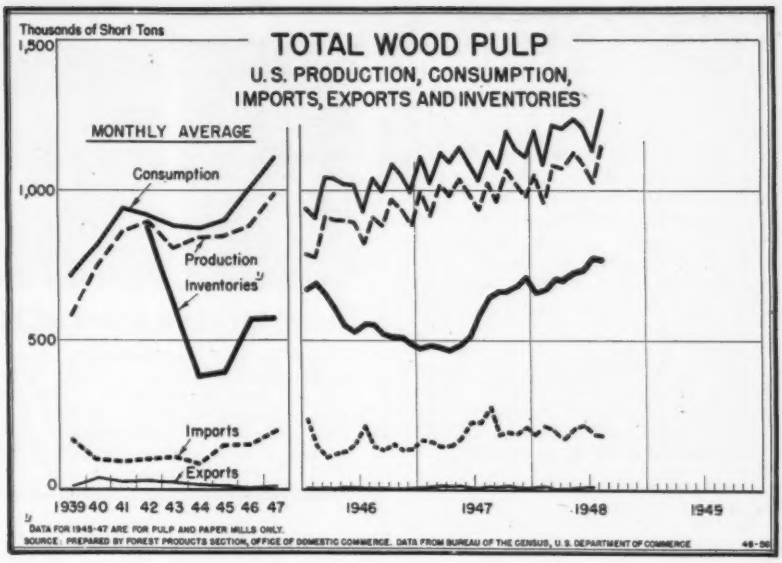
Census figures quoted also disclose that sustained production increases were achieved by the large integrated mills, while the smaller, non-integrated plants showed no gains, and some losses. Industry-wide consumption of pulp in August was 12 percent higher than in August 1947, but integrated mill consumption was up nearly 15 percent. Comparing August with March of this year, all mills used four percent more pulp, with integrated mills consuming six percent more, and non-integrated mills about six percent less.

Discrepancies in comparative pulp consumption between integrated and non-integrated mills during August were particularly marked in the sulphate grades. Over-all industry use of these grades in August was 18 percent above the August 1947 figure and eight percent more than in March of this year. Integrated mill consumption, however, was 22 percent above that in the comparable month last year and more than 11 percent above the March 1948 figure while non-integrated plants used 6½ percent and 20 percent less than in the respective earlier months.

Production of all grades of paper in August amounted to 937,000 tons, five percent more than in August 1947. Paperboard output in August totalled 799,000 tons, a six percent gain over the same month last year.

Over-all trends in pulp consumption, and relative declines in waste paper use, are reflected in a grade-by-grade comparison of output. Largest percentage increases are shown to be in kraft products.

Comparison of August 1948 with August 1947 shows kraft wrapping up ten percent, bag paper up 21 percent, shipping sack paper up 21 percent, converting coarse paper up 12 percent, and paperboard liners up 23 percent. Declines are recorded for fine paper, down four percent; groundwool papers, down three percent; container chipboard, down 10 percent; corrugating, down 12 percent; folding boxboard, down two percent; and set-up boxboard, down six percent. It is apparent from these wide variations that output by grade was adjusting itself to market demands and competitive conditions.



In other grades, August 1948 production showed the following comparisons with August 1947: Newsprint, up 8½ percent; book paper, up 3½ percent; wrapping paper, as a group, down three percent (indicating a large decline in bogus or wrapping grades other than kraft, since kraft was up 10 percent); special industrial paper, up ten percent; sanitary paper, up 11 percent; absorbent and tissue papers, no change; building paper, up one percent; miscellaneous paperboard, up five percent; wet machine board down 17 percent; and building board up 21 percent.

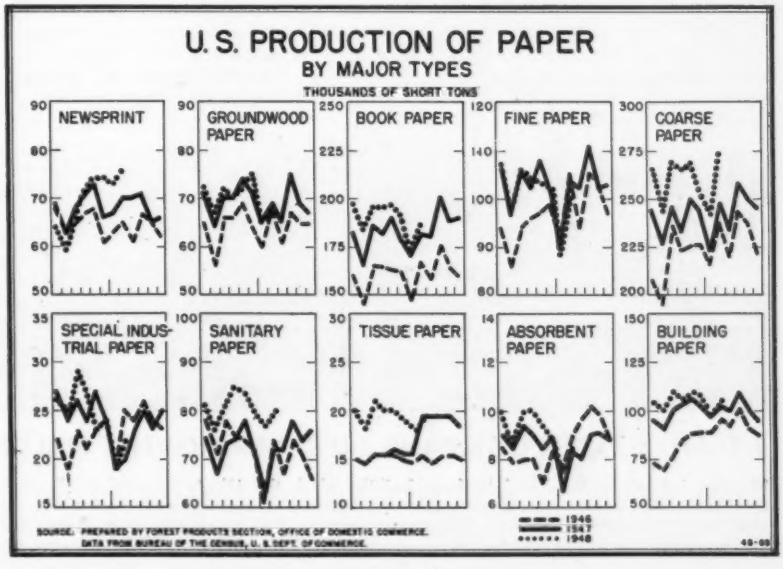
Lost Traffic Regained

NEWARK, N. J.—Port officials and representatives of the city of Newark gave a formal greeting on Oct. 16 to the Swedish-American Line freighter Braheholm, bringing in a "victory" cargo of wood pulp for distribution to users of high-grade paper in this area.

The victory was claimed by the Port of New York Authority officials, who said the wood pulp shipment was the first to come to the New York port area since before the war. It represents, they added, the recapture of a type of cargo that the Port of New York lost in former years to other ports, including Philadelphia and Baltimore.

Newsprint Use Climbs

MONTREAL—The Newsprint Ass'n., of Canada reports that apparent total newsprint consumption in the United States in September was 440,770 tons, an increase of 41,036 tons or 10.3 percent over September, 1947. Apparent total stocks of all United States consumers decreased by 8,588 tons in September and amounted to 560,153 tons at the end of the month. Corresponding stocks at the end of September 1947 were 560,113 tons.



Western New York TAPPI

GASPORT, N. Y.—The next regular monthly meeting of the Western New York Group, Empire State Section of TAPPI on November 10, 1948 will include a plant tour of the DuPont Rayon-Cellophane Division, River Road Tonawanda, N.Y. The plant tour will be limited to 100 persons. The mill inspection tour will start at 4:00 P.M., with the dinner meeting scheduled for 7:00 P. M. at the Cutts Hotel in Tonawanda. Dr. E. F. Wesp of the Rayon Division will speak on "The Viscose Rayon Industry." Dr. Wesp has a thorough knowledge of all phases of rayon and cellophane manufacture, having been for 13 years in the DuPont research department and having served for the past two years as technical superintendent of the rayon plant.

Those who plan to attend are urged to send in reservations as soon as possible to Gordon K. Storin of the Niagara Alkali Co., Niagara Falls, N. Y.

Pulp Technology Lecturers

ORONO, Me.—Five lectures in a series of 15 on pulp technology have been given at the University of Maine by well-known officials in the pulp and paper industry. The first five speakers and their subjects were Professor Fay Hyland, University of Maine, "Chemical Properties of Pulp Wood"; C. A. Redden, "Preparation of Pulp Wood"; E. R. Barker, Jr., "Sulphite Acid Preparations", and Robert Nivison, Jr., "Mechanical Pulping" (all of the Hollingsworth & Whitney Co.); and A. H. Lundberg of the G. D. Jenssen Co., "Sulfur Dioxide Recovery and Sulphite Acid Manufacture."

Future of Paper Research

NEW YORK — Addressing a meeting of the Forest Products Research Society at Hotel Pennsylvania on October 8, on "The Future of Research in the Paper Industry", Dr. Louis T. Stevenson, economist of the American Paper & Pulp Ass'n., said in part:

"To operate successfully today a paper mill must be up-to-date with respect to all three: raw materials, production and market . . . Paper as a commodity depands for its market upon the low cost service which it renders. Consequently the search for low cost materials is constant and intense. This motive prompted the research which developed the wood-using processes. The pressure to reach out and secure otherwise unused raw materials is always with us . . . Estimates based upon trends of population growth and per capital consumption of paper indicate that by 1955 the overall consumption of paper and board can be expected to reach 30 million tons annually. This will require domestic production of 25 to 26 million tons, allowing for a normal growth of imports . . . A projected trend of per capita consumption indicates that by 1955 it may reach 400 pounds per capita . . . The paper industry depends upon research activity for developing the techniques for the use of new raw materials, for developing new products, and for finding and developing new markets."

ROOT, McKELA ADVANCED

The position of E. M. Root (left) as sales manager of the Dilts Machine Works, Fulton, N. Y., has been broadened to include converting machinery in addition to stock preparation equipment . . . Jack McKela (right) will serve as sales engineer for both classes of equipment.

More Newsprint Needed

NEW YORK—A total of 494 publishers agree they would be ready to contract on a long-term basis for 472,538 tons of newsprint above present commitments, the American Newspaper Publishers Ass'n. reported on October 22.

Recknagel Chief Speaker

VANCOUVER, B.C. — Members of the Forest Products Research Society will study methods of wood utilization in British Columbia during a three-day meeting at Vancouver, B. C., and Powell River, B. C., November 8-10. Members of the northwest section of the society, which includes forest products research men from Oregon, Washington and British Columbia, will hear scientific papers and inspect lumber and paper mills here. Chief speaker at the meeting will be Dr. A. E. Recknagel, technical director of the St. Regis Paper Co. of New York, who will address the meeting on "Coordination of Utilization Practices in Woods and Mills."

Regional Wage Comparisons

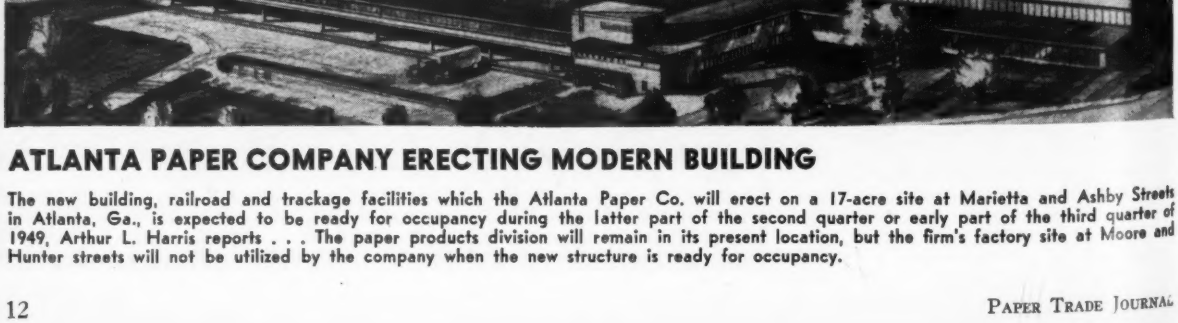
NEW YORK — A compilation of regional wage comparisons which comprises data taken from its Current Wage Survey representing 218 mills was furnished to member paper and pulp manufacturers by the American Paper and Pulp Ass'n. on October 22. A similar analysis, slightly different in composition, was distributed in June. Henceforth, this material will be made a quarterly report, enabling periodic comparisons of wage rate changes throughout the year, E. W. Tinker, executive secretary of the Association, states.

Resources Measure Output

QUEBEC—Unforeseen circumstances are the only thing which will permit increases in the output of pulp and paper mills in Quebec Province for many, many years, Prime Minister M. Duplessis said on October 22. "We have to limit the production of our mills to the capacity of our forests," he pointed out.

Chemicals Production Gains

WASHINGTON—Industrial production gains in August and September, offsetting the seasonal July decline, were featured by more-than-seasonal rises in paper and industrial chemicals, among other commodities, said the Department of Commerce this week, reviewing the early Fall business trend.



ATLANTA PAPER COMPANY ERECTING MODERN BUILDING

The new building, railroad and trackage facilities which the Atlanta Paper Co. will erect on a 17-acre site at Marietta and Ashby Streets in Atlanta, Ga., is expected to be ready for occupancy during the latter part of the second quarter or early part of the third quarter of 1949, Arthur L. Harris reports . . . The paper products division will remain in its present location, but the firm's factory site at Moore and Hunter streets will not be utilized by the company when the new structure is ready for occupancy.

Industrial Packaging and Materials Handling Exposition

CHICAGO—The Third Annual Industrial Packaging and Material Handling Exposition closed a three-day conference at Hotel Sherman on October 7. The attendance was approximately 6,000, representing all sections of the United States and a number of foreign countries.

Highlight of the affair was the well-planned and designed exposition of packaging and materials handling equipment and accessories.

A "short course," based upon the findings of a survey made among IPEA members under the sponsorship of the extension division of the University of Illinois and the IPEA, was conducted daily.

October 4, the opening day, was devoted to general sessions attended by enrollees of the packaging section and materials handling courses. Paul O. Vogt, president, IPEA, outlined the purposes and objectives of the training in a talk entitled "Why This Short Course."

A feature of the opening session of the packaging section class on October 5 was the discussion "Industrial Bags —Paper" by D. Fairchild of the Mehl Bag Co., Cincinnati. E. W. Preston of the Sherman Paper Products Corp. spoke at the same session on "Industrial Cushioning Materials."

The following were among more prominent exhibitors:

The display of the Acme Steel Co., Chicago, featured their new streamlined coil holder and also their new tool mount. In addition their complete line of tools and equipment were shown. A demonstration of speed strapping was held.

Enclosure panels, window guards, collapsible folding gates and their popular in-a-wall folding gate units were interestingly displayed in the booth of the Acorn Wire and Iron Works Co., Chicago.

Together with weatherproof solid fibre containers, the American Boxboard Co., Chicago, showed folding boxes, corrugated fiberboard containers and solid fiberboard containers.

A tape which is tough, yet flexible, and which neither water, insects or rodents can penetrate, was featured by the manufacturer, Angier, Framingham, Mass.

The Transporter manufactured by the Automatic Transportation Co., Chicago, available with either electric or automatic lift attracted much interest.

Steel strapping and accessories and heavy duty equipment, steel tubing, strip steel were among the products of the Brainard Steel Co., Warren, Ohio.

Seven Clark fork truck models were explained and one of the towing tractors was exhibited by the Clark Equipment Co., Chicago.

A variety of electrically heated, thermostat-controlled tanks manufactured by the D. C. Cooper Co., Chicago, were found in booth number 49.

Visitors to the Thomas A. Edison, Inc., display, while stopping to observe the storage batteries used in industrial trucks, picked up an interesting publication *Storage Battery Power*, an informative magazine about batteries and their uses.

Papers designed to serve as protective as well as a wrapper of the contents revealed many improvements and developments resulting from war time experience and now being produced for commercial use by the Fox Paper Co., Cincinnati, attracted large numbers of visitors.

From St. Louis, the Gaylord Container Corp. displayed corrugated and solid fiber boxes, folding cartons, kraft paper bags and wrapping papers.

Visitors to the booth of the General Box Co. found samples and photographs of all types of shipping containers, with emphasis on the company's slogan, "Of course! That's why the container should be a part of the product."

"The Story of GP Adhesive and What It Means To You," an informative 16-page booklet presenting the history and development of adhesives applied to paper, and concluding with the purchasing, storing, handling and applications of adhesives, found many visitors asking for copies at the Gummed Products Co. booth.

Hugh S. Kelley and A. S. Blaida were busy explaining the merits of the Hertner Electric Co.'s industrial truck and motorized hand truck battery chargers.

A feature of the Hyster Co., Peoria, display was a hydraulic clamping device designed to eliminate the need for pallets.

The use of speed-stitchers, wire tying machines and stitching wire adapted to production line methods for fibre containers, corrugated boxes, etc., was featured in the Inland Wire Products Co., Chicago, booth.

The Kimberly-Clark Corp. exhibit consisted of creped wadding, surface protection, flotation, blocking and bracing, absorbent packaging and application of Kimpak for cushioning as recommended or required by the new freight classification.

Five representatives of the Mid-States Gummed Paper Co., Chicago, were kept busy showing visitors the merits of their sealing tapes and other gummed paper products.

The labels and tapes of the Nashua Package Sealing Co., Nashua, N.H., were the occasion for many comments.

Papers which furnished users with protection against damage by moisture were shown by National Waterproof Papers, Inc., Camden, N.J.

A Nox-Rust Wrapper for use in protecting steel parts, such as saw blades, piston rings, mechanics' tools, etc., is a specially treated kraft paper which was shown by the Nox-Rust Chemical Co., of Chicago.

"Skid-Rol" dollies capable of carrying loads of ten to 12 tons, and several models of packaging machines, were shown by the Pack-Rite Machine Division of Techtmann Industries, Milwaukee.

Paul Thompson headed the group of Sherman Paper Products Co., Newton Upper Falls, Mass., representatives in charge of the several demonstrations conducted at the exposition.

"How to Ship Better and Safer" was the theme at the Signode Steel Strapping Co., Chicago, plant.

Corrugated joint fasteners were featured in the Stanley Works exhibit.

Display of electric lift trucks and a series of pictures showing their use of Yale & Towne Mfg. Co., Chicago, equipment was a center of much activity throughout the showing.

Two new models of bottom stitchers and straight-arm stitchers were displayed by the N. A. Young Co., Racine.

Casein Output Down

WASHINGTON—Dry casein production reached the lowest point in 25 years except in 1945, with 925,000 pounds last August, the Department of Agriculture announced last week. August output represented a 70 percent drop from a year earlier. Manufacturers' August 31 stocks of dry casein were estimated at 3,590,000 pounds, up 45 percent from a year earlier.

Handicaps No Handicap

HAMILTON, Ohio — The Beckett Paper Co. and the Black-Clawson Co. are two of 27 local firms employing physically handicapped persons in their organizations. In a recent survey, Beckett reported having one such employe whose work was rated "above average" and one "average." Black-Clawson reported eight "above average."

Forest Service Steps Up Reforestation

WASHINGTON — Completion of the most extensive reforestation program on national forest land since 1942, when the Civilion Conservation Corps was abolished, was reported by the Forest Service of the U. S. Department of Agriculture on October 7. During fiscal year 1948 a total of 46,114 acres of burned and other non-productive potential timber land was planted or sown to trees, two new Forest Service nurseries commenced operations, new tree planting machinery was used with favorable results, and oil sprays were employed in the three nurseries to control woods.

The Lake States Region led in the planting program with a total of 25,766 acres or slightly more than half the amount planted and seeded on all national forests. Within the region the work was primarily centered in the national forests of the once-great timber producing states of Michigan, Minnesota, and Wisconsin, with plantations of 12,636 acres, 4,920 acres, and 4,520 acres respectively. The Pacific Northwest Region, made up of Oregon and Washington was second with plantations of 7,876 acres while the Southern Region, which comprises all the southern states from North Carolina to Texas, planted 5,261 acres.

The Forest Service also reports that the effectiveness of its reforestation work has been considerably increased through improved planting practices and newly developed maintenance methods. Other advancements include the eradication of brush through spraying and the prescribed burning of longleaf pine plantations to keep out brownspot disease.

One of the major considerations of the Forest Service is its nurseries which supply the planting stock. Seed has already been sown at the two new nurseries established at Bend, Ore., and Mt. Shasta, Calif., though the actual physical set-up of warehouses, sheds, and ground clearing have not yet been completed. It is estimated that by 1950 the Bend nursery will have ready to ship 2,000,000 ponderosa pines and the Mt. Shasta nursery will have produced a total of 4,500,000 trees of the same species, practically all of which will be used in reforestation work on the national forests of California, Oregon and Washington. The development of these nurseries together with increased production in the other eleven Forest Service nurseries located throughout the country will bring the total of the stock available for nation-wide out-planting in 1950 to 46,485,000 trees as compared to the 41,150,000 trees shipped this year.

Forest Service nurseries all over the country report a poor seed crop of the various tree species most commonly used in reforestation work. With the red and white pine seed crop poor in the East and the crop of slash, longleaf, and loblolly pine seeds only fair in the south, prospects for accumulating seed this year for future use are not encouraging.

According to the Forest Service, there are more than four million acres of land within the national forests that are denuded or badly understocked which must be reforested artificially if the potential capacity of the land is to be utilized for the production of forest products. Reforestation of these lands is being carried on as rapidly as funds become eavailable.

F.T.C. Order Issued

WASHINGTON—Fleming & Sons, Inc., 1120 Twelfth street, Dallas, Tex., and its advertising agent, Albert Couchman, who trades as Couchman Advertising Agency, Dallas, have been ordered by the Federal Trade Commission to stop representing that a building paper designated "Wallrite" is a nonconductor of heat or cold or impervious to water or moisture, it was reported on October 19.

Allegations of the complaint charging the respondents with representing that Wallrite will seal out wind and dust and save up to 20 percent on fuel in winter were dismissed as not sustained. The findings note that Wallrite is a good grade of building or sheathing paper which, when properly applied, will for all practical purposes prevent the infiltration of wind and dust. They add that "it is impossible to say" that Wallrite, when used in flimsily constructed houses with cracks and holes in the walls and ceilings, will result in a saving as much as 20 percent of fuel required to heat the house in winter.

Timber Lands Offered

WASHINGTON — The Department of the Interior put the northernmost timber lands in the United States up for sale on October 12. They occupy a tiny triangle of land cut off from the rest of Minnesota and the United States by the Lake of the Woods and Canada, and are in what is known as the Northwest Angle. The timber belongs to the Red Lake band of Chippewa Indians, about 2,500 persons. Its value is estimated at about $750,000.

Thwarting Lightning

SCHENECTADY, N. Y.—The possibility of preventing lightning-caused forest fires by eliminating lightning itself was suggested on October 19 by Dr. Vincent J. Schaefer, weather scientist of the General Electric Co.'s research laboratory.

In a report of his studies of natural thunderstorm conditions conducted this summer at Priest River Forest Experiment Station, Idaho, Dr. Schaefer recommended to the U. S. Forest Service that dry-ice be used to transform towering cumulus clouds in that area into snow.

Thus, instead of growing into highly-unstable thunderstorms, from which lightning is produced, the cumulus clouds either would precipitate out as snow and rain or would become cirrus or snow clouds, which do not produce lightning, according to Dr. Schaefer.

In addition to recommending a complete program for conducting such experiments, Dr. Schaefer advised the Forest Service to initiate and continue an intensive study of lightning storms at Priest River Station for a period of at least five years.

In recommending the experimentation with dry-ice, the G-E scientist said he is confident that eventually a method will be developed "for completely modifying the type of cumulus clouds which produce lightning, hail, severe 'cloud bursts,' and destructive winds."

Comment From Germany

HANOVER, Germany — Commenting upon "The Progress of Paper," published as the 75th Anniversary edition of *Paper Trade Journal*, a German periodical, *Neue Deutsche Papier-Zeitung* recently said:

"We, who had received *Paper Trade Journal* without interruption since the First World War until the outbreak of the Second prevented the exchange of such material, believe that this publication has lived up to every one of the ideals it had outlined. They are principles which even today have value for every serious trade paper. Therefore, we summarize them here. Mr. Lockwood gives the prospectus of his paper: (1) It should belong to and be conducted by persons who are in no way pecuniarily connected with the trade, so that its independence and freedom from personal bias or interest may be assured. (2) Its managers should have a good knowledge of the paper business and of the wants of those in the trade. (3) Such a journal should be issued at least twice a month, and even oftener if possible, in order to give frequent and fresh news of all kinds. It must at the same time have its hand on the pulse of the industry and contain an up-to-date market report.

"Our best wishes are extended to this outstanding publication for its further development."

Ledoux ACCL Member

NEW YORK—The American Council of Commercial Laboratories has elected Ledoux & Co., metallurgical laboratories, to membership. This raises the membership to 40.

Staacke to H-R, Inc.

NEW YORK — C. W. Staacke, belt conveyor engineer and a member of the B. F. Goodrich Co.'s engineering staff for 22 years, has joined Hewitt-Robins, Inc., as a technical consultant.

Iron Works Resuming

BOSTON, Mass.—The blast furnace of the Mystic Iron Works in Everett, which supplies New England's paper machinery makers with most of their pig iron requirements, will resume production around November 1, the company discloses.

Within 48 hours of resumption of production the furnace will be operating at peak capacity of about 500 tons daily, it was added. The furnace closed for repairs July 6.

Questioned as to its future price policy, the company said it was committed by contracts to maintain present price levels at least until the end of the year. Since the closing of the furnace, paper machinery firms in this area have been forced to enter the foreign market for a big portion of their current needs. It is understood foreign products sell for nearly twice the Mystic quotation.

Meanwhile, virtually all of this area's paper machinery makers have been able to scrape by during the shut-down of their big supplier. Use of the foreign metal, swapping, adjustment of mixtures and neighborhood drives for scrap metal are some of the methods used by the companies to maintain production schedules.

New Gurley Dealers

TROY, N. Y. — W. & L. E. Gurley, manufacturers of engineering and scientific instruments, have appointed three new dealers: the L. L. Ridgeway Co., 324 Lafayette street, New York City, which will open an additional branch office at 277 Broadway; Western Blueprint Co., Kansas City, Mo., and the Wray Williams Co., Memphis, Tenn.

Coincident with the appointment of L. L. Ridgway, Gurley's New York office was discontinued.

Smith Sets Record

MILWAUKEE—A record sales volume of approximately $16,000,000 was established by the Pressure Vessel division of the A. O. Smith Corp., in the fiscal year ended July 31, H. H. Needham, division manager, reported on October 7.

"This is believed to be the largest volume of pressure vessel and storage tank business done by any American company in a single year. The majority of it has directly increased vitally needed facilities in the petroleum, paper and chemical industries," Mr. Needham said.

Waldron Corp. Featured

NEW BRUNSWICK, N. J.—The John Waldron Corp., founded in 1827 by William Waldron, was the subject of an illustrated feature story in a recent issue of the New Brunswick *Times*. B. R. Newcomb is president of the 121-year-old firm which manufactures equipment for paper coating, laminating, slitting, embossing, printing, festooning, waxing, gumming, winding, creping, etc.

Paris Bulletin Service

HOBOKEN, N. J.—Mrs. Breene L. Wright sailed on October 15 for Paris to establish a Paris Bulletin Service for the United States Testing Co., Inc. This service will be available to American industry on a monthly-fee basis.

The Paris bulletins will be designed to bring to American industry direct observations on manufacturing, quality control, marketing, advertising, and selling of French products.

The French purchasing missions and the activities of these missions under the ECA program will also be investigated. Materials available for export, price structure and industrial trends will be reported.

Staley Names Three

DECATUR, Ill.—Appointment of three salesmen to the industrial sales division of A. E. Staley Mfg. Co. is reported by Paul Doolen, industrial sales manager. They are Herbert J. Wallner, who will work out of the New York office; James Turek, Jr., assigned a territory in the West Coast district; and Walter C. Moore, who will work out of Decatur.

New Nopco Line-Up

HARRISON, N.J.—John J. McCloskey, Jr., is now representing the industrial division of the Nopco Chemical Co. of this city in the Central Atlantic states and John J. Ryan has been made a member of the sales force in Pennsylvania, succeeding Walter E. Brewer, recently promoted to district sales manager.

Keller to Morart

HOLYOKE, Mass.—Charles L. Keller of Lincoln Park, Mich., has been appointed to the staff of Morart Gravure Corp., Holyoke, Mass. Mr. Keller was formerly associated with Fabricon Products, Inc., River Rouge, Mich., as production manager of the plastics and automotive divisions. He will assist T. W. Noble, general manager, in various departments.

Solving Water Problem

KETCHIKAN, Alaska — Engineers of the Puget Sound Pulp & Paper Co. are at work to determine the most practicable way of supplying suitable water to the multi-million-dollar mill to be constructed near this city.

Work on the plant, which will be designed and built by Puget Pulp, probably will begin next summer. Expected cost is between $20,000,000 and $30,000,000.

Coast Merchant Merges

PORTLAND, Ore.—Merger of the Seaport Paper Co. and Carter Rice & Co. of Oregon, large Northwest paper distributor, was reported by James W. Murphy, president of Carter, Rice on October 3.

Wm. G. Batson, former owner of Seaport, has joined the executive staff of Carter, Rice as sales manager of the industrial paper division.

Two Products Renamed

NASHUA, N. H.—Pervenac and I-Mac have been adopted by the Nashua Gummed & Coated Paper Co. as the new trade names for their two lines of heat seal papers, provisionally known as Thermo-Kote and Thermo-Stix.

Concrete Encirclement

OREGON CITY, Ore.—Replacement of an old timber headwall with a concrete dam is under way at the Publishers' Paper Co. paper mill in the east basin above Willamette Falls. The improvement will complete encirclement of the falls by concrete as it connects the lower lip of the east falls with the new dam built in 1943 following destruction of the timber-crib dam above the Hawley sawmill in January, 1943.

The timber headwall has been in place about 12 to 15 years and was torn out in July to permit workmen to place forms for the new dam. The paper mill officials state the headwall and new penstock gates for the pulp wood grinders of Mill A will be ready to operate November 15, the date this portion of the former Hawley mill normally resumes production. Low water during summer months ordinarily precludes operation of the Mill A grinders which are water powered.

Hanlon Hewitt Head

NEW YORK—Robert J. Hanlon has been elected president of C. B. Hewitt & Brothers, dealers in glues, gelatine, adhesives, paper and boards, succeeding the late Frederick L. Reeves.

Hoffman Elected V. P.

CHICAGO—Ralph M. Hoffman, president of the Link-Belt Co., Pacific Division, San Francisco, was elected a vice-president of the parent Link-Belt Co., here on September 28.

Houston Heads Erving Mills

ERVING, Mass.—Grafton Houston has been elected president of the Erving Paper Mills, Morris Housen, board chairman, reports.

Runyon at Hazleton

HAZLETON, Pa. — Oliver United Filters Inc., manufacturer of industrial filters and pumps, has placed Russell Runyon in charge of purchasing at its local plant.

BURGESS APPOINTMENT

George F. Blasius has been appointed executive vice president and director, in charge of sales and new product development of the Burgess Pigment Co., Sandersville, Ga.

E. T. Gardner Honored

MIDDLETOWN, Ohio—E. T. Gardner, president and general manager of the Gardner-Richardson Co., was presented with a Resolution of Thanks and Appreciation by the Middletown Civic Ass'n., on October 8, upon his retirement from the executive committee of that organization, of which he was a founder and an active member for 25 years.

Mr. Gardner started his business life in 1899 with the Tytus Gardner Paper & Mfg. Co., of Middletown. He was one of the incorporators of the Colin Gardner Paper Co. in 1900, now Mill No. 1 of the Gardner-Richardson plant.

In 1917, four companies consolidated and Mr. Gardner became president of the new firm, the Gardner & Harvey Co. The Universal Paper Products Co., of Clyde, Ohio, was bought at that time and became the first fabricating unit of the present firm.

In June, 1932, the Gardner-Harvey-Johnston Co. was formed and Mr. Gardner still serves as president of this holding company. The present corporation also was formed then.

Mr. Gardner and George H. Mead purchased the Wren Paper Co. later and Mr. Gardner was chairman of the board of directors until November 24, 1947, when the company changed ownership. He continues as a director of the company.

He also serves as a director of the First National bank of Middletown, the Diamond Match Co., of New York and the Mead Corp., of Dayton.

Bowater to B. C.

MONTREAL, Que. — Further expansion in the newsprint operations of Bowater interests, this time in British Columbia, is foreseen by Sir Eric Bowater, president of Bowater's Newfoundland Pulp and Paper Mills Ltd.

Although no timber limits have been acquired as yet, he intimated to newsmen that British Columbia is the most probable locale of future construction.

Sir Eric visited possible sites in Canada's west coast province a year ago on one of his regular trips to Canada and Newfoundland.

It is thought that a B.C. mill will likely be built with a view to supplyings newsprint markets on the U. S. west coast and in Australia and the Orient.

Miss Myra Glazier Speaks

SPRINGFIELD, Mass.—Miss N. Myra Glazier, president of the Sheppard Envelope Co., of Worcester, speaking at a conference of New England chapters of the National Office Management Ass'n. at the Sheraton Hotel, said here on October 15 that the United States is in desperate need of new leadership that believes in the free enterprise system. Full production, Miss Glazier said, is the best answer to our economic needs.

Restraining Order Issued

MACON, Ga. — Bibb Superior Court Judge A. M. Anderson signed an order on October 11 temporarily restraining the Macon Kraft Co. from operation unless it made sure the effluent it dumps into the Ocmulgee River would not kill aquatic life.

Judge Anderson signed the order after a petition for injunction had been presented by Attorney General Eugene Cook, who told the judge the paper firm had consented to the court order.

Meanwhile, Mr. Cook stressed the fact that Macon Kraft's consent to the temporary restraining order "by no means closes the chapter or exonerates others who may be concerned in the pollution problem."

The court order stipulated, among other things, that the Macon Kraft Co. must make use of the best and most approved methods of operation of a kraft paper mill and "when and if better equipment or better methods are known to the industry and are practically adaptable for commercial use on an economic basis, the same shall be installed and used."

Ackley Succeeds Harris

OREGON CITY, Ore. — Jess Harris, paper mill superintendent at the West Linn mill of the Crown Zellerbach Corp. since 1924, is being relieved of active, full-time duties in the plant at his own request, according to Resident Manager P. T. Sinclair.

His successor is Charles Ackley, who will come from the Crown Zellerbach newsprint mill at Port Angeles, Wash. Mr. Ackley was general superintendent at the Hawley mill in Oregon City until 1940, when he joined Crown Zellerbach. He is a vice-president of the American Paper Mill Superintendents' Ass'n.

Mr. Sinclair said Mr. Harris still is a member of the organization and will be available to the firm for special services until his retirement in 1950.

Col. Jones Resigns

QUEBEC—The resignation of Col. C. H. L. Jones as president of Price Bros. & Co., Ltd., because of ill health, was announced on October 6 in a board statement. Mr. Jones will continue as a director of the paper manufacturing company.

The board also announced appointment of A. C. Price, second son of the late Sir William Price, as president, and of G. F. Layne as vice-president and general manager.

How-to-Wrap Shown

MILWAUKEE — The American Paper Co. conducted an educational program on October 7 at the Elks club to show newest techniques and materials used in wrapping packages. Five hundred business representatives of this area attended. The Thilmany Pulp & Paper Co., Kaukauna, and the Brown Bridge Mills, Troy, Ohio, showed educational films.

Oxford Personnel Changes

NEW YORK—The Oxford Paper Co. reports that, effective October 15, John S. Parsons, who has been connected with the sales department here since 1942, assumed new responsibilities in sales in Chicago and the Middle West territory under the direction of O. S. Barrie, manager of sales of the Oxford-Miami Paper Co. and western sales manager of the Oxford Paper Co. Mr. Parsons will make his headquarters at 35 East Wacker drive.

H. Terrell Van Ingen, Jr., who has been a trainee at the Oxford Mills in Rumford, Maine, for the past two years, will become a member of the New York Sales Department of the Oxford Paper Co. He has worked in all departments of the mills, learning the paper business from pulp manufacture through the finishing operations. He will work principally with Oxford merchants in the East.

Cash Crops Contest

LINDEN, Ala. — Representatives of the Gulf State Paper Co. from Tuscaloosa came to Linden High School a few days ago to discuss with students the coming essay contest sponsored by the company. Miss Janet Bell, of the public relations division of the company, showed a motion picture on conservation. Frank Parham, also with the company's public relations division, presented a plaque to Fannie Duke and Kitty Glass. There is space on this plaque for the next contest winner. Fannie and Kitty were second and third place winners in last year's contest. Title for this year's essay will be "Cash Crops from Alabama Woodlands."

Exhibiting Thermorex

FULTON, N. Y.—The Sealright Co., Inc., developer and manufacturer of the Thermorex frozen food container, is a new exhibitor at the National Frozen Food Locker Convention this year.

The Thermorex is a plastic coated paperboard container which holds greases, syrups and liquids as well as the easier loads required of a frozen food container. It is made in the Sealright factories at Fulton, N. Y., and Kansas City, Kans.

Batchelder to Coosa

COOSA PINES, Ala.—Philip A. Bachelder has been appointed comptroller of the Coosa River Newsprint Co.. Mr. Bachelder, who has been associated with the Kimberly-Clark Corp., at Neenah, Wis., since 1945, will assume permanent residence in Talladega, Ala., on or about November 1. He served in Washington during the war years and was previously associated with the S. D. Warren Co.

Champion's Robertson

CINCINNATI — Reuben B. Robertson, Jr., executive vice-president of the Champion Paper & Fibre Co., has been elected a director of the Proctor & Gamble Co.

Seems like Magic

. . . the way Stainless Steel will help you boost production

ACTUALLY there's no hocus-pocus about it. It's simply a case of cause and effect.

Stainless Steel steps up mill output because it increases the life of equipment, reduces the need for frequent replacement and repairs, requires less cleaning and cleans faster – and thus minimizes work shut-downs and interruptions.

When, for example, Stainless Steel digester linings stay in service many times longer—when cylinder mold wires and screen cloths last for years instead of weeks – when cleaning can be done in minutes instead of hours—when there's no metallic pick-up, rusting or discoloration to cause off-quality breaks or stock losses, a higher production level can be maintained.

It is not mere coincidence that mills having the best production records are invariably large users of Stainless Steel—and are constantly extending its application.

In U·S·S Stainless Steels we offer you a *complete* family of perfected special-purpose steels that will meet almost any requirement of pulp and paper mill service. Our engineers are specialists in its uses and will gladly assist you in selecting the proper type to ensure the greatest benefits from its application.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO · CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

8-1387

UNITED STATES STEEL

AMERICAN PAPER AND PULP ASSOCIATION'S PRODUCTION RATIO REPORT*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1948		Corresponding Weeks—1947	
September 11	77.4	September 13	106.9
September 18	97.3	September 20	108.6
September 25	98.4	September 27	107.0
October 2	98.6	October 4	109.5
October 9 (Revised)	98.4	October 11	108.4
October 16	**101.8	October 18	108.3

COMPARATIVE MONTHLY SUMMARIES

1947						1948	
Jan.	102.1	May	106.2	Oct.	109.5	Jan.	100.3
Feb.	105.9	June	106.2	Nov.	109.3	Feb.	99.8
Mar.	106.1	July	95.5	Dec.	101.5	Mar.	100.8
Apr.	105.1	Aug.	104.2			Apr.	100.8
		Sept.	102.0	Year Avg.	104.3	May	100.5
						June	‡94.5
						July	‡88.1
						Aug.	‡96.8
						Sept.	‡91.8

‡ Preliminary Ratios.

COMPARATIVE YEARLY SUMMARIES

	1941	1942	1943	1944	1945	1946	1947	1948
Year to Date	95.9	92.0	88.3	88.2	88.8	100.8	103.8	97.0
Year Average	97.4	90.4	87.8	88.1	89.4	101.1	104.3	

** Indicates 1948 volume of 183,038 tons—Comparable week 1947—171,637 tons.

PAPERBOARD OPERATING RATIOS†

Current Weeks—1948		Corresponding Weeks—1947	
September 11	76	September 13	103
September 18	97	September 20	101
September 25	94	September 27	102
October 2	96	October 4	100
October 9	96	October 11	102
October 16	97	October 18	101

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1947	99	103	101	100	101	101	90	99	96	101	99	89	98
1948	99	100	102	102	100	94	81	92	91				

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

Philanthropy Dinner

NEW YORK — Wm. Mazer of the Hudson Pulp & Paper Corp., is 1948 chairman of the Pulp and Paper Division of the Federation of Jewish Philanthropies of New York which will hold its annual dinner at Hotel Astor on November 18.

Serving with Mr. Mazer on the committee are the following associate chairmen; Samuel J. Fishman, Finkel Paper Co.; Walter D. Krissel, Equitable Paper Bag Co.; David J. Phillips of Phillips Paper Products; Robert J. Rudnick, Mutual Paper Co.; and Samuel Wishnick, Park Tissue Mills. The committee treasurer is Jack Weill of the Mutual Paper Co.

In addition to the foregoing, the Committee includes Nelson H. Berger, Forbes Paper Co., A. H. Cohen and Leo Cohen, Resolute Paper Products Corp.; S. W. Franklin, Lily Tulip Cup Corp.; Bernard Friedlander, Capitol Folding Paper Box Co.; Jacob P. Galewitz, Clinton Paper Co.; S. A. Gersten, Gilbert Paper Co., Inc.; Morris Gintzler, Pulp & Paper Trading Co.; Morris H. Gold, International Paper Co.; Mary Kaplan, Erving Paper Mills; Daniel Kelminson, Independent Cordage Co.; Theodore Krasko, Park Tissue Mills; and Edward Landers, Park Tissue Mills.

Also Harry Pollard, Jaffe Sales Corp.; Maurice Relkin, Prime Paper Corp.; Charles I. Rieur, Paragon Paper & Twine Corp.; Maurice Rosenfeld, Equitable Paper Bag Co.; Harold Schrier, Schrier Bros.; Meyer N. Schwartzapel, Harlem Paper Products Co.; Benjamin I. Sheldon, Gottesman & Co.; Joseph H. Simon, Ace Paper Co.; Jacob Sincoff, Empire Boxboard Co.; Malcolm Stoll, Reliance Paper & Twine Corp.; and Sidney Witty, Trinity Bag & Paper Co.

Japs Returning Mill

TOKYO—A paper mill valued at $5,000,000 looted from Canton, China, by the Japanese will be shipped back to the Chinese government.

Pulpwood Meeting

ATLANTA—The annual meeting of the Southern Pulpwood Conservation Ass'n., will be held at the Atlanta-Biltmore Hotel on February 9, 1949, H. J. Malsberger, general manager, reports.

To Rockefeller Plaza

NEW YORK — Madden, Reeve Angel & Co., Inc., and the Jay Madden Corp. will remove to 10 Rockefeller Plaza on November 1. The telephone number will be CIrcle 6-9373.

BLANCHARD JOINS ROSS

C. E. (Charlie) Blanchard has been added to the staff of the Boston office of the J. O. Ross Engineering Corp. He will continue in the work in which he was engaged for the past 20 years with the B. F. Sturtevant Co.

Freight Rate Review

OTTAWA — The Canadian Government has handed the controversial issue of higher freight rates back to the Board of Transport Commissioners here for review. Higher freight rates would affect the costs of paper. By an Order - In - Council passed here, the Cabinet has ordered the Board to review the original 21 percent freight-rate increase granted last March in the light of "changed conditions" and complaints raised by seven of the nine Canadian provincial governments (Ontario and Quebec excepted).

ECA Manila Fiber

WASHINGTON—Manila fiber procurement from the Philippines for various countries was authorized this week under ECA. Countries of destination included: Denmark, $96,685; France, Istle, Tampico tails and combings, from Mexico, $60,000, plus ocean freight, $6,000; Norway, Manila fiber, from Philippines, $470,000.

Fire Research Set Up

WASHINGTON—Faced by a steady post-war rise in the annual number of forest fires, the Forest Service in the U. S. Department of Agriculture announced on October 15 the setting up of a new national Division of Fire Research to develop and improve techniques and equipment for use in fire suppression.

Output Ups and Downs

WASHINGTON—Record high production of chlorine, caustic soda, sulfuric acid, and a number of other chemicals was reported for August by the Department of Commerce this week. Among declines reported were soda ash, and nitric acid, although relatively not large in their cases.

Monetary Depreciation

SHANGHAI — Chinese currency, cheaper today than waste, may be used to help keep Shanghai's paper mills running. Several mills closed recently because of the high price of waste.

Marathon Executives Upped

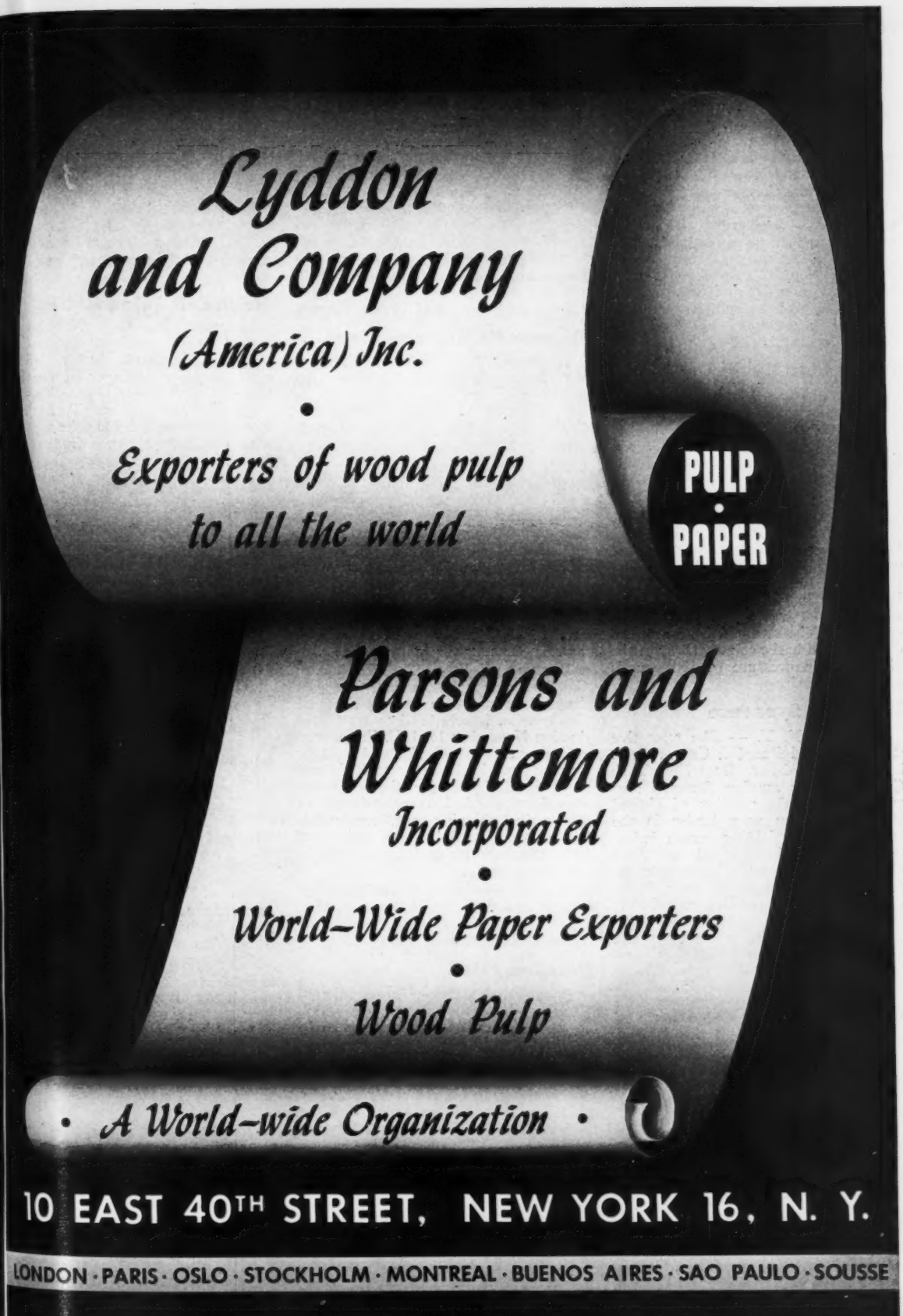
ROTHSCHILD, Wis.—Frank J. Dvorak, assistant to the president, and Roy J. Sund, vice-president, have been elected directors of the Marathon Corp., and Donald A. Snyder, director of sales, has been named a vice-president.

Pound to Ocean Falls

OCEAN FALLS, B. C.—William T. Pound has been appointed plant engineer of the Pacific Mills, Ltd., plant here. Previously, he was plant engineer of the Brown Corp., at Latuque, Que.

Mechanicsville Pulp Mill

NEW YORK—The West Virginia Pulp & Paper Co., has appropriated $12,000,000 from reserves to build a pulp mill at Mechanicsville, N. Y., according to David L. Luke, president.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Tenney National Director

LONG ISLAND CITY, N. Y.—National Container Corp. has elected Harral S. Tenney as a director of the company for a term expiring with the annual meeting of stockholders in 1949.

Mr. Tenney is executive vice-president, treasurer and secretary of the Marine Midland Trust Co. of New York, and is a director and a member of the executive committee of that bank. He is also a director and a member of the executive committee of Pepsi-Cola Co., and a director of the Marine Midland Trust Co. of Binghamton, Worker's Trust Co. of Johnson City, Third Avenue Transit Co., Liberty Products Corp., and American Reserve Insurance Co.

Steam Line Readying

HOLYOKE, Mass.—Construction of a six-inch steam pipeline from the Holyoke Water Power Co. plant to the No. 2 mill of the Whiting Paper Co., on Dwight street, is slated for completion about December 1.

The new line will be used for both heating and manufacturing in the Whiting mill, according to Sidney E. Whiting, assistant treasurer of the paper firm. Heretofore, the Whiting Paper Co. obtained its steam from Whiting & Co. This source will be discontinued as soon as the new line is operating. The steam will be supplied on a metered basis, coming through the pipeline at a pressure of 100 pounds per square inch.

United to Syracuse

SYRACUSE, N. Y. — The executive staff of United Board & Carton Corp. has been moved here from New York City. "This is another forward step to consolidate the position of United Board & Carton as a leader in the paperboard and folding carton industries," P. M. Loddengaard, executive vice-president, stated. The corporation has carton plants at Victory Mills, Cohoes, Brooklyn and Syracuse, N.Y.; and Springfield, O. The firm also operates paperboard mills at Lockport and Thomson, N.Y., and Urbana, O., and a laminating plant at Victory Mills, N. Y.

Butler Portrait Unveiled

BOSTON — The Colonial Paper Co. unveiled an oil portrait of its late president, William Francis Butler, the evening of September 27, before the members of the organization and many friends of Mr. Butler. The painting is the work of Ruth L. Berry. Mr. Butler, whose entire business career was devoted to the paper business, died last January 24.

Eaton's Smith Advanced

PITTSFIELD, Mass. — James Craig Smith, treasurer of the Eaton Paper Corp. for the past nine years, has been appointed general plant manager. He will combine his new duties with the treasurership.

Dolphin Proposed

WEST SALEM, Ore. — Permission to drive a row of single piles in the Willamette River at Durant bar, about two miles upstream from this city, is being sought by the Publisher's Paper Co., in an application filed with the U.S. army corps of engineers in Portland.

The proposed work would be done at the firm's log dump on the north bank of the river. The project includes driving of a row of piles beginning 120 feet upstream from the log dump and extending diagonally downstream to a three-pile dolphin on Durant Bar about 175 feet channelward from the dump. Piles would be spaced five feet apart.

Diamond's Houston Plant

HOUSTON, Tex.—Latest addition to the electrolytic chemical industry, the new $14,500,000 chlorine and caustic soda plant of the Diamond Alkali Co., here, will be dedicated on November 15.

Invitations to attend the dedication, which have been issued by the firm, state that the morning of that day will be devoted to the presentation by Diamond engineers of six papers relating to the problems of plant design and operation. Dedication and inspection of the new plant has been scheduled for the afternoon, with cocktails and dinner at the Ramada Club in the evening.

Fiber Drum Plant

BUFFALO, N. Y. — The Continental Can Co.'s new 200,000 square foot fiber drum plant in Colvin avenue, Town of Tonawanda, is scheduled to start production November 15, J. F. Price, general manager of Continental's Paper Converting Division, reports. This new plant is designed for the exclusive manufacture of Leverpak drums — fiber-walled shipping containers metal-banded reinforced bottoms and metal tops, ranging in size from 12- to 75-gallon capacities.

Paul E. Kreischer, formerly assistant factory manager of the Van Wert plant, will be factory manager of the Tonawanda operation.

Petition Filed

HOLYOKE, Mass. — The Municipal Gas and Electric Department, which wants to be heard at a hearing to be held by the Federal Power Commission on the petition of the Holyoke Water Power Company for a license to develop a giant hydro-electric power plant here, on October 2 filed with the Federal Power Commission a petition to intervene at the Holyoke Water Power Co. hearing. The petition was filed by Manager Francis H. King, with permission of the Gas and Electric Commission.

Offering Cellophane Items

NEW YORK—Herbert A. Post, Inc., is now carrying in stock shredded cellophane and cellophane streamers manufactured by the Sylvania Division of the American Viscose Corp.

Ohio De-Inking Plant

YOUNGSTOWN, Ohio — A paper mill designed to produce 50 tons of de-inked newsprint daily will be built in neighboring Hubbard, the Greater Youngstown Area Foundation has announced.

The plant wil be constructed by the American Industrial Co., of Buffalo. The factory's cost is estimated at $500,000. Spokesmen said it should be in operation next spring.

The site is to be a 14-acre section occupied by the now-abandoned American Sintering Co. plant.

McDowell Joins Keith

HOLYOKE, Mass.—J. Norman McDowel, former president of the Carew Mfg., Co., in South Hadley Falls, became assistant manager of the Keith Paper Co., Turners Falls, Mass., on Sept. 28. He succeeds T. Richmond Probst, who resigned to take a position with the Oxford Paper Co., in Rumford, Me.

Goodwill to K'zoo

WATERTOWN, N. Y. — Frederick C. Goodwill, technical director of the St. Regis Paper Co.'s central laboratory at Deferiet, has been appointed general manager of the company's Kalamazoo, Mich., specialty mill. John H. Heuer, his assistant in the laboratory at Deferiet, will succeed him as director there.

In State Tower Bldg.

SYRACUSE, N. Y.—St. Regis Paper Co. has established the offices of the company's forestry department in the State Tower building where A. B. Recknagel, technical director of forestry for the company, and George W. Abel, assistant director, will make their headquarters.

Coppell Now Channing

NEW YORK — The Coppell Sales Corp., 154 Nassau street, broker and jobber of fine and coarse papers, has changed its name to Channing Sales Corp. Michael S. Beck, president, has stated that company policy, personnel and corporate structure remain unchanged.

News-St. Croix Deal

BOSTON—St. Croix Paper Co., Maine newsprint producer, proposed to sell 2,500 authorized but unissued common shares at $200 per share to the News Syndicate Co., Inc., publisher of the New York *Daily News*, it was reported on October 7.

Ozalid Names Naylor

JOHNSON CITY, N. Y.—Lewis P. Naylor of Baltimore has been appointed sales manager of the Ozalid division of General Aniline & Film Corp.

Opens in Knoxville

LOUISVILLE, Ky. — The Louisville Paper Co. has opened a branch warehouse with a railroad siding, at 115 Ramsey street, Knoxville, Tenn.

Aero-Drop Patent

MADISON, Wis. — The Commissioner of Patents on October 12 announced granting of a patent to William J. Sanderson, formerly of the U. S. Forest Products Laboratory here, on an "Aero-Drop" container. Because the grant is made in the name of an individual Federal government employe, the patent is of the public use type, which means that the principles involved can be applied at will by any citizen.

The device is a free-falling revolving container intended to replace expensive parachutes for dropping supplies under both war and peacetime conditions. It was designed by the Forest Products Laboratory staff in cooperation with Army Air Forces.

The container is collapsible, easily assembled, and well adapted to production-line fabrication.

OK Awaits Report

WELLINGTON, N. Z.—The Government it holding up legislation for establishment of a State paper mill until it receives a report on the engineering and economic possibilities of an ambitious plant at Murupara, on the Rangitaiki River in the Bay of Plenty district, that is being prepared by the Rust Engineering Co. of Pittsburgh, Pa.

According to Clarence F. Skinner, Commissioner of State Forests, the Government would proceed with the project only if the report showed that the scheme was feasible and attractive. The report is expected to be made late in October.

Mr. Skinner has told Parliament that to assist the Rust Co. in making its engineering and cost estimates, arrangements had been made for quotations to be used for British paper mill and steam and power plant equipment. While it had been necessary to arrange for the use of Swedish quotations for pulp-mill equipment, he explained, nevertheless supplementary quotations for such of this pulp-mill equipment as could be manufactured under license in New Zealand, Australia or Great Britain were being obtained. Dollar equipment, however, may be required.

It is understood that preliminary views of the Rust Co. were entirely favorable. Estimates of the cost of the project have been put between $30,000,000 and $50,000,000.

Three-State Exhibit

An exhibit sponsored by a group of pulp and paper companies and timberland owners in co-operation with the State Forestry and Extension Services of Maine, New Hampshire and Vermont is designed to stimulate a greater interest among pulpwood producers and woodlot owners in better forest management and improved cutting practices. It consists of five four- by eight-foot panels containing transparent photographs and a screen on which to project movies. Each of the photographs is underlined with a caption indicating a phase of better forest management.

By mid-October the exhibit had appeared at 14 fairs in Maine, New Hampshire and Vermont.

The State Forestry Departments and Extension Services had representatives in attendance to answer questions and discuss woodlot owner's problems.

SANDY HILL EDITOR

Mrs. Agnes B. Palmer editor of Iron and Brass Chips, employe publication of The Sandy Hill Iron & Brass Wks., Hudson Falls, N. Y., speaker at National Metal Sales Ass'n., convention, Hotel Commodore, New York City, October 18.

Atlantic City Meet

ATLANTIC CITY — Buyers of paper products are becoming more selective in their purchases and some paper mills are seeking to reduce prices to stimulate business, James W. Traill, Jr., a Conshohocken, Pa., mill superintendent, said on October 2 in a report at the Fall meeting of the Pennsylvania-New Jersey-Delaware Division of the American Pulp & Paper Superintendents Ass'n., of which he was chairman.

L. H. Birdwell, Jr., of Hughesville, N. J., was elected chairman to succeed Mr. Traill.

Other officers chosen by the 200 delegates at the concluding business session included Glen T. Renegar, Philadelphia, and John Sprout, Modena, Pa., vice-chairmen; and Mrs. Alice R. Dow of St. Petersburg, Fla., secretary-treasurer for a 24th term.

Patent Threat Seen

CHICAGO — Forced licensing of patents would encourage inventors and manufacturers to keep their new ideas secret and thereby handicap technological advancement, William J. Kelly, president of the Machinery and Allied Products Institute, declared on October 11.

Mr. Kelly said that agitation for compulsory licensing is a perennial threat to the patent system, and the issues involved are of vital interest to producers of capital goods.

In the fourth of a series of bulletins on patents and the capital goods industries, the Institute contrasted conditions in the United States with those of foreign countries which have compulsory licensing laws.

COL. ELKINS NAMED

William J. Elkins, wartime Army colonel and former engineering consultant to the New York State Department of Commerce, has joined the Moore & White Co., Philadelphia, as a sales engineer in the New England States and eastern New York.

Oil Chemists Meeting

NEW YORK—The nutritional aspects of glyceridic and edible oils, and the part they are playing in the national economy, will be examined at the fall convention of the American Oil Chemists' Society at Hotel Pennsylvania here, November 15-18. An attendance of 1,000 is expected.

In addition to emphasis on the glycerdic oil field, 54 other technical papers by expert chemists will be presented during the four-day session covering soap and detergents, the analytical side of oil chemistry, drying oils, industrial uses of fatty oils and acids, research, nutrition, and antioxidants, according to Dr. Hans W. Vahlteich, vice-president in charge of research and quality control for Best Foods, Inc., and program chairman.

Red Tape Hits Newsprint

MONTREAL—United States publishers are condemned by their Government to using the lowest quality newsprint, D. W. Ambridge, president of the Abitibi Power & Paper Co., told U. S. publishers at a recent meeting in Milwaukee. He said Canadian manufacturers could produce paper which would give better reproduction, but are prevented from doing so by U.S. tariff laws.

Crux of the matter is that "standard newsprint" is the only grade admitted into United States duty-free, and U. S. tariff regulations (drawn up in 1930) lay down a rigid definition for standard newsprint. If the newsprint quality were improved, it would cease to qualify as standard.

Roy M. Carter Appointed

RALEIGH, N. C. — Appointment of Roy M. Carter of Philadelphia, Pa., a specialist with the U. S. Forest Service, as head of the research and teaching programs in wood technology in the Division of Forestry at N. C. State College was disclosed on October 14 by Dr. Richard J. Preston, Jr., division director.

Marking Centennial

BROOKLYN, N. Y. — The William Cabble Excelsior Wire Mfg. Co., celebrated its 100th Anniversary at a dinner party in the Towers Hotel on October 4.

Watertown Threatened

WATERTOWN, N. Y.—This city of 38,000 is threatened as an industrial center as a result of the recent Supreme Court decision against basing-point price systems.

The F. M. Burke Co., manufacturers of paper containers, and the Taggert Bros. Paper Co., paper bags are among many affected.

Trends

Office of the PAPER TRADE JOURNAL,
Wednesday, October 27, 1948.

A Swedish writer reports the situation in the wood pulp market as rather obscure, that the sales reported on the basis of reduced prices have been limited. "In recent years there has been a price gap between home produced American and Canadian pulp on the one hand and Scandinavian pulp on the other. The price reductions are intended to eliminate or reduce that margin which is now less motivated by conditions in the American paper and pulp markets. The Swedish pulp industry now hopes that this adjustment will lead to improved exports of Swedish pulp to the American market, which have lately been fairly small, so that we can obtain the dollar currency needed for our imports."

Further disturbing the Swedish market are trade agreements with other countries. "On previous occasions, we have several times expressed fears for the consequences of the conditions stipulated by the Swedish authorities in concluding trade agreements with some countries. Unfavorable effects are now becoming apparent in several quarters," writes the *Svensk Pappersmassetidning* correspondent. "For some countries, for instance, the stipulation that the Swedish cellulose exports must be paid in dollars has resulted in the loss of contracts, e.g., in markets like Greece and China. The Dutch also have expressed a wish to import some previously contracted pulp consignments from Sweden, but so far this has been stopped by the fact that according to the Swedish authorities the quotas are already used up; we are informed that these Dutch requirements have now been wholly or partly met by extra quantities provided by Finland. The circumstance that Finland has at an early stage made a new agreement with Argentine has similarly resulted in a considerable portion of the Argentine pulp requirements, which used to be bought from Sweden, being now met by Finland."

September imports from Sweden, as reported by the Bureau of Census, totaled only 11,888 tons. Bleached sulphite showed the largest reduction with total tonnage imported only 252 tons. The spot market for Scandinavian pulp is understood to be $15 or $20 per ton under quoted contract levels. Rumors of a considerable tonnage of bleached sulphite at $145 are circulating. Buying of either domestic or Scandinavian product is limited to immediate requirements. Some importers are optimistic about Swedish and Finnish kraft commitments later in the fourth quarter on a basis of overseas high grade quality.

Jute's Future

India's jute mills are reportedly buying up all supplies offered at fantastic prices. Cheaper terms for jute goods are considered to be unlikely for about two years.

Textile Bags Boom

Government buying of food and fertilizers under the ECA has stimulated the textile bag industry. Particularly in exports, textile bags have been preferred for flour, feed, etc. Promotion and enlarged buying for export of flour, feed, fertilizer, beans, etc., are partly responsible for return of bag cloth buyers to the textile market.

Indexes

Index of general business activity for the week ended October 16 inclined to 148.3 from 146.2 in the preceding week, compared with 143.8 in the corresponding week of 1947.

Index of paperboard production rose to 176.5 from 174.8 in the preceding week, compared with 170.4 in the corresponding week of 1947.

Comparative ratios of U. S. paper and paperboard production to mill capacity as reported by AP&PA are:

	Oct. 16 1948	Oct. 9 1948	Oct. 18 1947	Oct. 19 1946	Oct. 20 1945
Paper**	101.8	98.4	108.3	105.1	96.5
Paperboard ..	97.0	96.0	101.0	98.0	96.0

** Indicates 1948 volume of 183,038 tons. Comparable week 1947, 171,637 tons.

Paperboard Production (Tons)

	Oct. 16 1948	Oct. 9 1948	Oct. 18 1947
Production	192,539	192,340	185,868
New Orders	185,610	214,291	162,060
Unfilled Orders .	384,134	395,953	445,358

Percent of Activity, Current 97%; Year, 96%.

N. Y. QM Sulphite Bids

NEW YORK — N. Y. Quartermaster Purchasing Office has announced bids opened on October 4 under Invitation QM-30-280-49-280 covering 5,872 long tons of sulphite pulp as follows:

Boston Paperboard Co., Boston, Mass., 1000 tons @ 6c per lb.

Bulkley Dunton Pulp Co., Inc., N.Y.C., all @ $125.50 per net long ton

Canadian Commercial Corp., Ottawa, Ontario, Canada, 2600 net long tons @ $119.85 per short ton

Gottesman & Co., Inc., N.Y.C., 1,000 short tons @ $140.00 per short ton, or $139.00 if shipped to Boston, Mass., or Portland, Me.; 2,500 short tons @ $130.00 per short ton, f.a.s., Empire, Ore.

Parsons & Whittemore, Inc., N.Y.C., 2,000 net long tons @ $125.22.

St. John Sulphite, Ltd., New Brunswick, Canada, all @ $143.35 or $146.75, f.o.b., St. John, New Brunswick, vessel loaded and trimmed.

Puget Sound Pulp & Timber Co., Bellingham, Wash., all @ $125.50 f.a.s., Bellingham, or $128.80 f.a.s., Seattle, Wash.

—Editor's note: Award was made to the Puget Sound Pulp & Timber Co.

Mixed Grades To Burn

NEW YORK—Concluding that the one hope for the present deplorable condition of the waste paper market is to burn mixed waste paper now in the hands of dealers, a committee representing the Metropolitan Waste Paper Dealers Ass'n. will ask the City Licensing Bureau for permission to cart waste paper to the city incinerators for burning. Support for the action was gained at a meeting of over sixty packers held under the Association's auspices at the Broadway Central Hotel, New York, Thursday, October 21, to discuss the serious waste paper market situation.

Newsprint for U. K.

WASHINGTON—The United Kingdom will receive from Canada $4,000,000 worth of newsprint under a procurement authorization announced by ECA this week. In addition, the same country will receive from Canada, under ECA procurement, $320,000 worth of kraft container board.

Pulp and paper procurement authorized to date under ECA totals $21,451,490, for all countries. In addition to the paper products authorized for the United Kingdom, other procurement included: for Austria, $105,000 worth of sulphur, to be obtained in the United States.

U. S. Pulp for U. K.

WASHINGTON — Eire and U.K. are the latest countries for which procurement of pulp, paper and products has been authorized by ECA, it was disclosed today. Authorizations are: for U.K., pulp, paper and products, $1,300,000, for procurement in U.S.; for Ireland, same, $56,000 from U.S. Also listed were pulp, paper and paper products for France, $1,300,000, from U.S.

Import-Export Flow

WASHINGTON — Newsprint imports rose in August to 779,000,000 pounds, from 724,000,000 in July, the Department of Commerce reported this week.

Woodpulp imports fell to 179,000 tons from 184,000 in the same months. Other imports were: jute and jute butts, August and July respectively, 4,112 tons from 8,876.

Exports of paper and paper manufactures rose to $9,900,000 in August, $330,000 above the July shipments; woodpulp exports were respectively 7,733 shorts from 9,606, valued at $1,100,000 and $1,300,000 for the same months.

G. N. Newsprint Rise

NEW YORK — Great Northern Paper Co. has announced a $4 rise in newsprint prices effective November 1. This second increase since August 1 brings Great Northern's prices to the levels of its competitors, $100 a ton.

IF YOU EMPLOY 100 PEOPLE OR MORE...

YOU CAN MAKE THESE YOUR Success Stories!

Payroll Plan for U. S. Savings Bonds actually increases worker production, as demonstrated in large and medium-sized companies throughout the nation. Here are some examples:

PAYROLL SAVINGS MAKES EMPLOYEES MORE CONTENTED

In General Motors' My Job Contest, approximately 15,000 GM men and women gave the Payroll Savings Plan as one of the reasons they like their jobs!

PAYROLL SAVINGS CUTS ABSENTEEISM

A survey made by a smaller company in Minnesota showed that during a recent three-month period employees not on payroll savings were absent almost 2½ times more frequently than those who were on the Payroll Savings Plan. Further proof that payroll savings cuts absenteeism!

PAYROLL SAVINGS REDUCES ACCIDENTS

Records at our eleven Navy Yards show that, as participation in the Bond program increases, accident frequency and accident severity decline. When participation at the Norfolk Navy Yard climbed to over 90%, accident frequency declined over 50%, and the accident severity index dropped to 1/6 its former level!

Hundreds of companies are reporting benefits like these! Obviously, they add up to increased production.

What's more, the Payroll Savings Plan is a powerful weapon against inflation. Every Savings Bond dollar built up in the Treasury retires a dollar of the national debt that is potentially inflationary. That's good for the country's future—which means it's good for *your company's* future.

And, of course, it's good for the employee's future, because the Bonds pay $4 at maturity for every $3 invested.

If your company has the Payroll Savings Plan, make sure you and your employees are getting the most out of it! If you haven't yet installed the Plan, you're missing something! For facts or help, call your Treasury Department's State Director, Savings Bonds Division.

The Treasury Department acknowledges with appreciation the publication of this message by

Paper Trade Journal

This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and the Advertising Council.

Imports

Week Ending Oct. 23

NEW YORK

Newsprint

N. Y. Journal American, Markland, Liverpool, N. S., 468 rolls.
N. Y. Herald Tribune, Markland, Liverpool, N. S., 1758 rolls.
N. Y. World Telegram, Markland, Liverpool, N. S., 445 rolls.
Brooklyn Eagle, Markland, Liverpool, N. S., 702 rolls.
Washington Post, (Alexandria, Va.), Markland, Liverpool, N. S., 2834 rolls.
Alexandria Gazette, (Alexandria, Va.), Markland, Liverpool, N. S., 32 rolls.
Washington Daily News, (Alexandria, Va.), Markland, Liverpool, N. S., 332 rolls.
R. A. Olsen, Kermic, Donnacona, 376 rolls.
H. G. Craig, Donpaco, Donnacona, 331 rolls.
News Syndicate Co., Ethel Tombs, Gatineau, 275 rolls.
R. A. Olsen, G.T.D., Donnacona, 368 rolls.
News Syndicate Co., Colabee, Baie Comeau, 7738 rolls.
R. A. Olsen, Newscarrier, Donnacona, 381 rolls.
H. G. Craig, G.D.D., Donnacona, 351 rolls.
Madden Reeve Angel & Co., Inc., Mormacyork, Helsingfors, 231 rolls.

Cigarette Paper

National City Bank, Indochinois, Havre, 60 cs.
National City Bank, Wisconsin, Havre, 120 cs.

Baryta Coated Paper

Green Kriegsman Paper Co., Saginaw Victory, Antwerp, 1 cs.

Surface Coated Paper

Gevaert Co. of America, Stavelot, Antwerp, 5 cs.

Parchment Paper

George Lippelgoes, Saginaw Victory, Antwerp, 6 cs.

Pith Paper

R. D. Lyon, Trien Maersk, Keelung, 2 cs.

Gummed Paper

B. F. Drakenfeld & Co., Britannic, Liverpool, 47 cs.
B. F. Drakenfeld & Co., American Forwarder, Liverpool, 66 cs.

Tissue Paper

B. F. Drakenfeld & Co., Britannic, Liverpool, 29 cs.

Serviettes

(———), Britannic, Liverpool, 13 cs.

Tracing Paper

Green Kriegsman Paper Co., American Importer, Hamburg, 3 cs.

Wallpaper

W. H. S. Lloyd & Co., American Forwarder, Manchester, 487 crtns.
(———), American Leader, London, 115 bls.
R. F. Downing & Co., Wisconsin, Havre, 9 cs.
American Express Co., Wisconsin, Havre, 4 cs.
Hudson Shipping Co., Wisconsin, Havre, 3 pkgs.

Writing Paper

American Express Co., Wisconsin, Havre, 4 cs.

Wood Veneer Paper

Manufacturers Trust Co., Andrew Jackson, Yokohama, 5 cs.

Photo Paper

J. J. Gavin Co., Queen Mary, Southampton, 7 cs. (unsensitized).
Lep Transport, Inc., American Leader, London, 94 cs.

Napkins

Freund-Mayer, Mormacyork, Copenhagen, 66 cs. (paper).

Miscellaneous Paper

Saentis, Inc., Blydendyk, Antwerp, 1 cs.
Parsons & Whittemore, Inc., Mormacyork, Gothenburg, 1 roll.
Manhattan Storage Co., Mormacyork, Gothenburg, 1 pcl.
R. H. Macy & Co., Exemplar, Leghorn, 1 cs.

Rags, Baggings, Etc.

Irving Trust Co., Olga S., Santos, 269 bls. old bagging.
New England Waste Co., Express, Madras, 58 bls. cotton waste.
Midwest Waste Material Co., Emma Bakke, Antwerp, 37 bls. scrap bagging.
Chase National Bank, American Counsellor, Antwerp, 93 bls. jute bagging.
Irving Trust Co., American Counsellor, Antwerp, 58 bls. old bagging.
Chase National Bank, American Packer, Manchester, 11 bls. wool rags.
(———), American Packer, Manchester, 94 bls. new cotton gabardine cuttings.
(———), American Packer, Glasgow, 80 bls. paperstock.
(———), American Leader, London, 66 bls. old khaki cotton cuttings.
E. J. Keller Co., Jean Lafitte, Antwerp, 131 bls. jute waste.
Midwest Waste Material Co., Exemplar, Genoa, 219 Bls. jute rags.
National City Bank, Exemplar, 516 bls. old waste bagging.
C. Comiter, Exemplar, Genoa, 89 bls. cotton waste.

Old Rope

International Purchasing Co., Maine, Copenhagen, 277 coils old rope.
(———), Express, Calcutta, 250 bls. old hemp rope cuttings.

U. S. IMPORTS WOODPULP

Preliminary Figures, Sept. 1948

	Country of Origin	Short Tons
Mechanically Ground		
Unbleached	Canada	19,638
	Sweden	114
	Finland	56
		19,808
Screenings	Canada	414
Bleached	No transactions	
Chemical		
Sulphite, Unbleached	Canada	33,092
	Sweden	3,227
	Finland	1,881
		38,200
Screenings	Canada	440
Sulphite, Bleached, Rayon and Spec. Chem. Grades	Canada	23,807
	Sweden	252
	Finland	105
		24,164
Other	Canada	22,177
	Sweden	1,143
	Norway	1,779
		25,099
Sulphate, Unbleached	Canada	11,686
	Sweden	1,748
	Finland	1,299
		14,733
Sulphate, Bleached	Canada	19,407
	Sweden	5,404
		24,811
Soda, Unbleached & Bleached	Canada	1,899
Totals:	Canada	132,560
	Sweden	11,888
	Finland	3,341
	Norway	1,779
		149,568

Casein

American Key Products, Inc., Mormacswan, Buenos Aires, 240 bags 12000 kilos.
American Cyanamid Co., Uruguay, Buenos Aires, 700 bags.
Hercules Powder Co., Uruguay, Buenos Aires, 1667 bags (lactic).
The Borden Co., Chemical Division, Uruguay, Buenos Aires, 1200 bags (lactic).
T. J. Kane, Uruguay, Buenos Aires, 1000 bags (lactic).

Gluestock

H. Remis, Agwiprincess, Tampico, 717 bdls. gluestock.
(———), Agwidale, Havana, 80 pkgs. hidecuttings.

Woodpulp

Bulkley Dunton Pulp Co., Braheholm, Gefle, 1778 bls. dry sulphite pulp.
Bulkley Dunton Pulp Co., Braheholm, Arnoviken, 3048 bls. dry bleached sulphite pulp.
Bulkley Dunton Pulp Co., Braheholm, Iggesund, 500 bls. prime bleached sulphite pulp.
Pagel Horton & Co., Inc., Braheholm, Husum, 2 cs. dry sulphite pulp; 2 bls., 1 cs. sulphite samples.

ALBANY

Cellulose Sales Co., Braheholm, Soraker, 810 bls. dry sulphite pulp.
Pagel Horton & Co., Inc., Braheholm, Husum, 7620 bls. dry unbleached sulphate pulp; 457 bls. bleached hardwood.
Cellulose Sales Co., Braheholm, Ortviken, 2400 bls. suplhite pulp; 750 bls. kraft sulphate pulp.
Bulkley Dunton Pulp Co., Braheholm, Iggesund, 500 bls. prime white bleached sulphite pulp.
Bulkley Dunton Pulp Co., Braheholm, Gefle, 254 bls. dry sulphite pulp.
Pagel Horton & Co., Inc., Braheholm, Gefle, 1000 bls. dry sulphite pulp.

NEWPORT NEWS

Bulkley Dunton Pulp Co., Braheholm, Gefle, 813 bls. dry sulphite pulp.
Perkins Goodwin & Co., Braheholm, Gernosand, 3048 bls. 2nd quality sulphite pulp.
Cellulose Sales Co., Braheholm, Ortviken, 300 bls. dry sulphate pulp.
Cellulose Sales Co., Braheholm, Soraker, 2184 bls. dry sulphite pulp.
Bulkley Dunton Pulp Co., Braheholm, Iggesund, 500 bls. prime white bleached sulphate pulp.
Price & Pierce, Ltd., Braheholm, Wallvik, 750 bls. dry sulphite pulp.

NORFOLK

F. P. Gaskell Co., American Packer, Glasgow, 105 cs. coated paper (for cigarette tips).

PHILADELPHIA

Mynol Chemical Co., American Packer, Liverpool, 2 cs. carbon paper.

BALTIMORE

Gottesman & Co., Inc., Mormacyork, Gothenburg, 1016 bls. dry sulphate pulp.
E. I. du Pont de Nemours & Co., Mormacyork, Gothenburg, 1 cs. woodpulp.

New Export Schedule

WASHINGTON — A new edition (No. 26) of the Comprehensive Export Schedule, containing all export control regulations in effect on September 30, 1948, was issued by the Department of Commerce through its Office of International Trade on October 19. It supersedes the one issued on June 1, and includes changes previously disclosed in Current Export Bulletins 459 to 485, inclusive.

Prices

Quotations indicate trends in an open market. At the moment they can be of little more value. While some volume business still is done under contract at the figures shown, fluctuations are too varied and frequent to permit prices to be interpreted as representing a wholly stabilized market.

NEW YORK

Paper

(Delivered New York)

Standard News, per ton—

Rolls, contract	$100.00/	—
Sheets	115.00/	—

Kraft—per cwt.—Carload Quantities Zone A Basis 40 lb. base wgt.

Superstandard Wrapping	$9.00/	—
No. 1 Wrapping	7.75/	8.00
Standard Wrapping Rolls	7.00/	—
Standard Wrapping Sheets	7.50/	—
Standard Bag	6.50/	—

Tissues—Per Ream 24x36 (480) 11 lbs. Zone 1.

Wh. No. 1 Frd.	$1.84/	$2.00
Wh. No. 1 M. G.	1.94/	2.00
Wh. No. 1½	— /	—
Wh. No. 2	1.75/	—
Kraft Anti-Tar	1.65/	—
Kraft Unbl.	1.85/	—
Shred. Wh. No. 1 per lb.	.12¾/	.18

Toilet—Per Case of 100 rolls—1 M Sheets.

Unbleached	$7.50/	$10.00
Bleached	8.75/	10.00

Paper Towels—Per Case of 3750—Zone 1.

Wh. Jr. M'tif'd 9¼x9½		$5.45
Br. Sr. M'tif'd 10x12		3.80
Br. Jr. M'tif'd 9½x9¾		3.30
Br. Jr. Sgl. fold 10x10¾		3.35

Manila—per cwt.—C-1 f.a.

No. 1 Jute Tag	$14.50/	—
Reg. Jute Manila	13.25/	$15.50
No. 1 Manila Wrapping	9.75/	—
5 lb. Manila	10.75/	11.25

Boards, per ton—

Filled News	94.00/	—
Plain Chip	90.00/	—
Bldbd. Mla. L-d. Chip*	105.00/	—
White Pat. coated*	120.00/	—
Kraft Liners 42 lb.	105.00/	—
Kraft Corr. .009	110.00/	—
Binders Boards	126.00/	—

*Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following prices are representative of distributors' resale prices, all deliveries in Zone 1:

Rag Content Bonds and Ledgers—

White, 16 lb.

Bonds, per cwt.

	Carton	4 C'tn	Ton
100% Rag Ext. No. 1	$59.00	$54.55	$52.30
100% Rag	52.25	48.30	46.30
75% Rag	41.50	38.30	36.70
50% Rag	33.75	30.70	29.50
25% Rag	30.25	27.45	26.35

Ledgers, per cwt.

100% Rag Ext. No. 1	$57.00	$52.65	$50.50
100% Rag	50.25	46.40	44.50
75% Rag	41.50	38.30	36.70
50% Rag	33.75	30.70	29.50
25% Rag	30.25	27.45	26.35

Sulphite Bonds and Ledgers—

White, 16 lbs.

Bonds, per cwt.

No. 1	$21.25	$19.25	$18.50
No. 2	20.25	18.30	17.55
No. 4	19.25	17.55	16.85

Ledgers, per cwt.

No. 1	$21.75	$19.65	$18.85
No. 2	20.75	18.75	18.05
No. 4	20.00	18.10	17.35

White Book, per cwt.—

	Case	Ton
Coated		
No. 1 Glossy	$20.90	$20.15
No. 2 Glossy	19.65	18.90
No. 3 Glossy	18.90	18.25
Machine Coated	16.65 to 17.15	16.05 to 16.35
Uncoated		
No. 1 Antique (Watermarked)	16.40	15.80
Offset	15.15 to 17.15	14.60 to 16.40
A Grade E. F.	15.40	14.85
A Grade S. C.	15.90	15.35
B Grade E. F.	15.15	14.55
B Grade S. C.	15.65	14.95

Wood Pulp

Fourth Quarter

Domestic mill contract prices delivered with varying freight allowances.

	Per Short ADT
Groundwood	$80.00/ $81.00
Unbleached Sulphite	124.00/ —
Bleached Sulphite	125.00/ 135.00
Bleached Soda	130.00/ 135.00
Bleached Sulphate	155.00/ 165.00
Unbleached Sulphate Northern	120.00/ 130.00
Unbleached Sulphate Southern	110.00/ 125.00

Canadian Quotations

Prices delivered with varying freight allowances unless otherwise specified:

	Per Short ADT
Bleached Sulphate	$150.00/$160.00
Unbleached Sulphate	125.00/ 135.00
Unbleached Sulphite	125.00/ 126.00
Bleached Sulphite	125.00/ 135.00
Glassine Unbleached Sulphite (no freight allowance)	120.00/ —
Bleached Soda	130.00/ —
Groundwood	80.00/ 85.00
Siderums Pulping News	80.00/ 90.00

Swedish Quotations

On dock, Atlantic Ports

	Per Short ADT
Bleached Kraft	$165.00/ —
Bleached Sulphite	165.00/ —
Unbleached Sulphite	140.00/ 149.00
Unbleached Kraft	127.50/ —

Finnish Quotations

On dock, Atlantic Ports

	Per Short ADT
Bleached Sulphite	$165.00/ —
Unbleached Sulphite	140.00/ 143.00
Unbleached Sulphate	127.50/ —

Norwegian Quotations

On dock, Atlantic Ports

	Per Short ADT
Bleached Sulphite	$165.00/$175.00

New Domestic Cotton Cuttings

(F.o.b. Ship. Pt. Plus Dealer's Commission)

White Shirt	$11.00/	$11.50
Unbleached Muslin	11.50/	12.00
Light Silesias	9.00/	9.25
White Back Blue Overalls	9.00/	9.50
Blue Overalls	8.00/	8.25
Fancy Shirt	6.50/	7.00
Light Percales	8.50/	8.75
Light Prints	7.50/	7.75
No. 1 Washables	5.00/	5.25
Bleachable Khaki	7.00/	7.50
Unbleachable Khaki	6.00/	6.50
Cottonades	5.50/	5.75

Old Domestic Cotton Rags

(F.o.b. Ship. Pt. Plus Dealer's Commission)

	Per 100 lbs.	
No. 1 Whites, Repacked	$5.50/	$6.00
No. 1 Whites Miscellaneous	4.50/	5.00
No. 2 Whites Repacked	3.50/	3.75
No. 2 Whites Miscellaneous	3.00/	3.50
Blue Overalls	3.75/	4.00
Thirds and Blues Repacked	3.25/	3.50
No. 1 Roofing Rags	1.60/	1.70
No. 2 Roofing Rags	1.50/	1.60
No. 3 Jute Bagging	1.40/	1.50
No. 4 Brussels & hrd. bck'd crpts.	1.40/	1.50
No. 5A Roofing Rags	1.40/	1.50

New Foreign Cotton Cuttings

(Prices to Mill, F.o.b. Dock, N. Y.)

	Per 100 lbs.	
New Dark Cuttings	$5.50/	$5.75
New Mixed Cuttings	6.25/	6.50
Light Silesias	9.25/	9.50
Light Flannelettes	9.25/	9.50
New White Cuttings	12.00/	13.00
New Unbleached Cuttings	12.25/	13.00
Fancy Shirt Cuttings	6.50/	7.00
Light Prints	7.75/	8.00
Bleachable Khaki, No. 1	7.00/	7.50
Unbl. Khaki, No. 1	6.25/	6.75

Old Foreign Rags

(Prices to Mill, F.o.b. Dock, N. Y.)

	Per 100 lbs.	
No. 1 White Cottons	$8.00/	$10.00
No. 2 White Cottons	7.00/	8.00
No. 3 White Cottons	6.00/	6.50
No. 4 White Cottons	4.00/	4.50
Extra Light Prints	6.50/	7.00
Old Light Prints	4.50/	5.00
Med. Light Prints	4.00/	4.50
Dutch Blue Cottons	5.25/	5.50
Checks and Blues	4.00/	4.25
Linsey Garments	2.30/	2.40
Dark Cottons, European	2.20/	2.30
Dark Cottons, Egyptian	3.20/	3.30
Old Shopperies	2.10/	2.20
New Shopperies	2.15/	2.25

Bagging

(Prices to Mill, f.o.b. N. Y.)

	Per 100 lbs.	
Foreign Gunny, No. 1	$7.25/	$7.50
Domestic Gunny, No. 1	7.25/	7.50
Heavy Wool Tares	6.50/	6.75
No. 1 Scrap Baggings	6.00/	6.25
Roofing Bagging	1.50/	1.75
Foreign Manila Rope	6.00/	6.25
Domestic Manila Rope	6.25/	6.50
Jute Strings	5.00/	5.25
No. 1 Sisal Strings	5.25/	5.50
Mixed Strings	1.75/	2.50

Waste Paper

Base Prices to Mills for Average Packings F.o.b. New York, Baled

	(Per Ton)	
No. 1 Hard White Envelope Cuts	110.00/	120.00
No. 1 Hd. Wh. Shavings, unruled	100.00/	110.00
Super Soft White Shavings	100.00/	105.00
No. 1 Soft White Shavings	90.00/	95.00
No. 1 Fly Leaf Shavings	45.00/	—
No. 1 Gd'wd Fly Leaf Shavings	35.00/	—
No. 1 Heavy Books & Magazines	19.00/	21.00
Mixed Books	13.00/	15.00
No. 1 White Ledger	55.00/	65.00
Col. Ledger	40.00/	45.00
Manila Tab. Cards	70.00/	80.00
New Manila Envelope Cuttings	70.00/	80.00
Extra Manilas	20.00/	25.00
Mxd. Kraft, Bag Cuttings	55.00/	60.00
Kraft Envelope Cuttings	75.00/	85.00
Triple Sorted, No. 1 Brown Soft Kraft	40.00/	45.00
New Kraft Corrugated Cuttings	35.00/	40.00
No. 1 Assorted Old Kraft	35.00/	40.00
Used Kraft Bags	35.00/	40.00
New Jute Corrugated Cuttings	18.00/	—
Old Corrugated	14.00/	15.00
No. 1 News	13.00/	14.00
No. 1 Mixed Papers	7.00/	8.00
Box Board Cuttings	7.00/	8.00
White Blank News	65.00/	70.00
Overissue News	18.00/	19.00
Sulphite Mill Wrappers	12.00/	14.00

Twines

All Prices Nominal, F.o.b. Mill

(Soft Fiber)		
Coarse Polished—India	.35½/	.36½
Fine Polished India	.41½/	.45
Unpolished—Paper Makers	.32¾/	.34½
Tube Rope	.33¾/	.35½
Wrapping	.36 /	.38¾
Cotton	.58 /	.60
Polished Cotton	.55 /	—
(Hard Fiber)		
Mex. Sisal	.21 /	.27
Manila (Reprocessed)	.31 /	.35
(American Hemp)		
Polished Hemp	.46½/	.48
Unpolished	.35 /	.37¾

PHILADELPHIA

Domestic Rags (new)

(F.o.b. Eastern Shipping Point)

White Shirt	.10½/	.11
Light Silesias	.07½/	.08
Black Silesias, soft	.05½/	.06
Unbleached Muslin	.10½/	.11¼
Washable Prints	.06½/	.07
Washable No. 1	.05 /	.05½
Blue Overall	.07½/	.08
Washable Shredding	.02¾/	.03¼
Fancy Percales	.06¾/	.07¼
Unbleachable Khaki	.05½/	.06½
Bleachable Khaki	.06¼/	.06¾
Men's Corduroy	.05½/	.06
Ladies' Corduroy	.05 /	.05½
Cottonades	.05½/	.06

Domestic Rags (Old)

(F.o.b. Eastern Shipping Point)

White No. 1—Repacked	4.50 /	5.00
Mixed White	4.00 /	4.25
White No. 2—Repacked	3.50 /	3.75
Thirds and Blues—Miscellaneous	2.50 /	2.75
Repacked	3.00 /	3.25
Domestic No. 1 Roofing Stock	1.55 /	1.60
Domestic No. 2 Roofing Stock	1.45 /	1.50
Roofing Bagging	1.35 /	1.40
Old Manila Rope	— /	5.50

(Continued on page 26)

Prices

CONTINUED FROM PAGE 25

Bagging

(F.o.b. Eastern Shipping Point)

Foreign Gunny No. 1	nominal
Domestic Gunny No. 1	.07¼ / .07¾
Sisal Strings No. 1	.04½ / .05
Sisal Strings No. 2	.03½ / .04
Sisal Jute	.02¼ / .03
No. 1 Scrap	.06½ / .07
No. 2 Scrap	.03 / .03½

Waste Papers

F.o.b. Phila. Mill Prices, Baled

	Per Ton
No. 1 Hd. White Envelope Cuts	120.00/ 125.00
No. 1 Hd. Wh. Shavings, unruled	100.00/ —
Soft White Shavings	85.00/ —
White Blank News	65.00/ 75.00
No. 1 White Ledger	65.00/ —
No. 1 Heavy Books & Magazines	20.00/ 22.00
New Manila Envelope Cuttings	75.00/ —
No. 1 Assorted Old Kraft	35.00/ 40.00
No. 1 Mixed Paper	7.00/ 8.00
Box Board Cuttings	8.00/ 10.00
New Kraft Corrugated Cuttings	55.00/ 60.00
Old Corrugated	14.00/ 16.00
Overissue News	15.00/ 16.00
No. 1 News	11.00/ 13.00

BOSTON

Waste Papers

F.o.b. Boston, Mill Prices, Baled

	Per 100 lbs.
No. 1 Hd. Wh. Shavings, unruled	$6.75 / —
No. 1 Hard White Shavings, ruled	4.50 / —
Soft White Shavings	6.00 / 6.25
No. 1 Fly Leaf Shavings	2.25 / —
No. 2 Fly Leaf Shavings	2.00 / 2.25
No. 1 Grdwd. Fly Leaf Shvgs.	nominal
No. 2 Groundwood Fly Leaf Shavings	nominal
Mixed Colored Shavings	1.50 / —
New Manila Env. Cuts, one cut	3.75 / —
Hard White Envelope Cuts, one cut	6.00 / —
Triple S'ted No. 1 Br. Soft Kraft	3.75 / 4.00
Mixed Kraft Env. & Bag Cuttings	2.25 / —
Kraft Envelope Cuttings	5.00 / 5.50
No. 1 Heavy Books & Magazines	1.10 / —
New Manila Env. Cutt'gs, one cut	2.35 / —
New Manila Envelope Cuttings	4.00 / 4.25
White Tabulating Cards	4.00 / 4.50
White Blank News	3.25 / —
No. 1 Assorted Old Kraft	2.50 / —
No. 1 Mixed Paper	.40 / .45
Overissue News	.55 / .60
No. 1 News	.55 / .60
New Corrugated Cuttings, Kraft	2.75 / 3.00
Old Kraft Corrugated Containers	1.75 / —
Old Corrugated Containers	.65 / .70
Paper Strings	2.00 / 2.25

Bagging

(F.o.b. Boston)

Foreign Gunny	nominal
Domestic Gunny	7.00 / —
No. 1 Old Rope	6.00 / 6.50
Mixed Strings	1.50 / —
Transmission Rope—	
Foreign	nominal
Domestic	3.00 / —
Foreign Manila Rope	nominal
Domestic Manila Rope	6.25 / —
Jute Carpet Threads	6.00 / —
Bleachery Burlap	— / 8.00
Scrap Burlap—	
Foreign	6.50 / 6.75
Domestic	6.50 / 6.75
South America	6.50 / 6.75
Foreign Wool Tares	7.50 / —
Domestic Wool Tares	7.50 / —
Austr. Wool Pouches	7.50 / —
New Zealand Wool Pouches	7.50 / —
New Burlap Cuttings	7.00 / —
Heavy Baling Bagging	7.00 / 7.50
Paper Mill Bagging	6.25 / 6.50
No. 1 Roofing Bagging	1.75 / —

Domestic Rags (New)

(F.o.b. Boston)

New Light Prints	nominal
Fancy Percales	.07 / —
White No. 1 Shirt	.11 / —
Light Flannelettes	.08 / —
Canton Flannels, Bleached	.10 / —
Underwear Cutters, Bleached	.11 / —
Underwear Cutters, Unbleached	.10½ / —
Silesias No. 1	.07¼ / —
Black Silesias	.04½ / —
Red Cotton Cuttings	.04¼ / —
Blue Overalls	— / .08
Soft Unbleached	.11 / —
Blue Cheviots	.07 / —
Fancy	.05½ / —
Washable	.06 / —
Khaki Cuttings	.06 / —
Corduroy	.04 / —
Men's Corduroy	.04½ / —
Khaki Canvas	— / .06
B. V. D. Cuttings	.11 / —

Domestic Rags (Old)

(F.o.b. Boston)

	Per 100 lbs.
No. 1 Whites, Repacked	4.75 / 5.00
No. 1 Whites, Miscellaneous	4.25 / 4.75
No. 2 Whites, Repacked	2.50 / —
No. 2 Whites, Miscellaneous	2.00 / —
Twos and Blues, Repacked	1.25 / —
Old Blue Overalls	4.00 / 4.50
Thirds and Blues, Repacked	2.00 / —
Black Stockings	3.00 / 3.50
No. 1 Roofing Stock	1.55 / —
No. 2 Roofing Stock	1.45 / —
No. 3 Roofing Stock	1.25 / —
No. 4 Roofing Stock	1.25 / —
No. 5, Quality A.	1.35 / —
Old Manila Rope	6.00 / —

CHICAGO

Waste Paper

(F.o.b. Chicago) Mill Prices, Baled

Shavings—	
No. 1 Hard White Envelope cuts, one cut	$100.00/ —
No. 1 Hard White Shavings, unruled	90.00/ —
No. 1 Soft White Shavings	80.00/ —
No. 1 White Ledger	60.00/ —
No. 1 Heavy Books & Magazines	28.00/ 30.00
White Blank News	50.00/ —
Mixed Kraft Env. & Bag Cuttings	70.00/ —
No. 1 Assorted Old Kraft	25.00/ —
Overissue News	22.00/ —
No. 1 News	— / 18.00
No. 1 Mixed Paper	9.00/ —
Old Corrugated	14.00/ 15.00
Mill Wrappers	11.00/ —

Markets

Blanc Fixe

Supply good; demand steady. Pulp is currently quoted at $85.00 in bags, car lots at works, 6 cents per pound, l.c.l., deld.; by-product $75.00 per ton, car lots, at works, 6 cents per pound, l.c.l., deld.

Bleaching Powder

Demand strong. Supply adequate. Prices firm. Export inquiry good. Prices range from $4.25 to $4.75 per 100 pound drums, l.c.l. works.

Casein

Demand continues light. Argentine market subsides as Japanese order goes to New Zealand. Domestic prices firm, supply light. Current prices on processed acid precipitated casein at 28½ to 32 cents per pound for domestic grades and .26 to .28 cents for imported grades, f.o.b. shipping point.

Caustic Soda

Liquid types in easier supply. Dry types continue short. Some 1949 contracts reported at present price levels. Demand eased in paper and textiles. Solid caustic is reported at $3.10 per cwt.; flaked and ground is quoted at $3.50 per cwt. in 400 pound drums, $4 to $4.25 per cwt. in 100 pound drums—car lots at works; liquid 50 percent in tank cars at $2.60 per cwt.; liquid 73 percent in tank cars at $2.60 per cwt., at works.

China Clay

Demand steady. Supply excellent. Domestic filled clay is $9 to $11.50 per ton, car lots; coating clay is $14 to $22. Imported clay quot tion, short tons, $16 to $35, export warehous

Chlorine

Supply approximately in balance. Shortage o tankcars hampers delivery. Currently quoted a $2.40 per cwt. in single unit tank cars; at $2.7 to $3.90 per cwt., in multi-tank cars, f.o.b., works

Rosin

Heavy foreign inquiry stimulates buying. Mar ket strong. Prices rising as supply outside lon lessens. Gum rosin in drums per 100 pounds ne in car lots, f.o.b., Savannah; B, $6.50; G, H I, K, $7.75. Wood rosin per 100 pounds ne car lots, f.o.b. Savannah; B, $5.00; FF, $6.50.

Rosin Size

Heavy demand. Supply good. Seventy percen gum and pale wood grades, tank cars, $6.30 t $6.40, f.o.b. southern shipping point.

Salt Cake

Supply somewhat easier. Heavy kraft produc tion keeps demand steady. Production under con tract. Domestic salt cake quoted at $25 to $28.

Soda Ash

Supply continues to improve. Deliveries up t schedule. Current prices sustained in some 194 contracts. Current prices, car lots per 100 pounds in bulk, $1.15; in paper bags, $1.40; and in barrels, $1.90.

Sodium Bicarbonate

Demand eased by better supply of other al kalis. Production good. Reported as $1.93 per cwt. paper bags, carload lots.

Starch, Corn

Prices steady following 25c drop. Should hold for balance of year. Demand moderate. Pearl grade quoted at $6.16 per 100 pounds; powdered starch at $6.27 per 100 pounds; car lots, New York.

Starch, Potato

Prices unsteady following dip, with indica tions of further weakening for Maine product. Buying spotty for immediate needs; good for fu tures. High grade quoted at $5.00 cwt. f.o.b. Idaho; $5.25/$5.75 f.o.b. Aroostook; Pearl grade $5.10/$5.95 cwt. f.o.b. Aroostook.

Sulphate of Alumina

Demand increased. Supply steady. The com mercial grades are quoted from $1.50 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is $2.50 per 100 pounds in bags, car lots, at works.

Sulphur

Demand active. Supplies steady. Production up 3 percent. Annual contracts are quoted at $18 per long ton, f.o.b. mines; the price f.o.b. at Gulf ports is $22.00 per long ton.

Talc

Prices steady. Demand continues far in ex cess of supply. Domestic grades are currently quoted at $23 per ton in paper sacks, f.o.b. mills; Canadian at $35 and up per ton. All prices in car lots.

Tapioca Flour

High grades in fair supply and demand. Su perior highs range from $10.25/$11.00 cwt.; medium grades $9.25 cwt., on dock Atlantic and Gulf ports; low grades range from $6.50/$7.50 cwt., on dock N. Y. Coarse low grades, $5.50 cwt., on dock N. Y. Medium and low grades in adequate supply.

Titanium Dioxide

Supply of paper grades continues unequal to demand. Shipments on allocation. Anastase 18c pound carload lots, 18½-19c l.c.l., rutile, 20c pound carload lots, 20½-21c l.c.l.; 50-pound bags f.o.b. plant, minimum freight allowance.

Financial Record

Preferred Stocks	Per Share Calendar Year 1947	Earnings 12 Mos. to Approx. 6/30/48	Indic. Annual Divid. Rate	Oct. 27 Closing Market Price
Armstrong Cork Co. $3.75 Cum.	$38.64*	$43.53*	$3.75	
Armstrong Cork Co. $4.00 Cum. Conv.	38.64*	43.53*	4.00	110
Celotex Corp. 5% Cum.	24.25c	26.25g	1.00	18⅞
Champion Paper & Fibre $4.50 Cum.	65.90f		4.50	98
Container Corp. of Amer. 4% Cum.	102.74	98.49i	4.00	90
Crown Zellerbach $4.20 Cum.	56.40f	55.07g	4.20	96¼
Crown Zellerbach $4.00 Cum. Conv. 2nd	211.39f	217.70g	4.00	
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	9.16	8.59	2.50	
Flintkote Co. $4 Cum.	81.91	80.04	4.00	97½
Robert Gair Co. Inc. 6% Cum.	18.01	16.26	1.20	
International Paper Co. $4 Cum.	236.51	245.85	4.00	
Johns-Manville $3.50 Cum.	128.81	175.15i	3.50	110
Kimberly Clark Corp. 4½% Cum.	70.03	73.34	4.50	
Kimberly Clark Corp. 4% Cum. Conv. 2nd	95.88	100.73	4.00	92
MacAndrews & Forbes 6% Cum.	62.20	58.89i	6.00	133
Mead Corp. 4¼% Cum.	81.56	79.68	4.25	
Mead Corp. 4% Cum. Conv. 2nd	53.34	51.75	2.00	38⅜
Paraffine Cos. Inc. 4% Cum. Conv.	152.76a		4.00	
Rayonier Inc. $2 Cum.	13.58	15.44	2.00	33⅛
St. Regis Paper Co. 4.40% 1st A	76.93	85.00i	4.40	86
Scott Paper Co. $3.40 Cum.	43.95	50.24	3.40	88⅛
U. S. Gypsum Co. 7% Cum.	211.34	300.59i	7.00	
United Wallpaper Inc. 4% Cum. Conv.	(d)1.35a		2.00	
West Virginia Pulp & Paper 4½% Cum.	75.75c	78.49g	4.50	
Common Stocks				
APW Products Co.	$1.24	$1.46	$0.25	
American Writing Paper Corp.	1.61	.47	0.25	5⅜
Armstrong Cork Co.	6.41	7.17	2.60	52½
Celotex Corp.	6.59c	7.15g	2.00	27¾
Certain-Teed Prods. Corp.	3.75	3.92	0.90	16
Champion Paper & Fibre	5.57f		2.00	25½
Congoleum Nairn Co.	4.55	5.12	2.00	34¼
Container Corp. of America	10.09	9.54i	2.00e	39¾
Crown Zellerbach	6.81f	6.53g	2.00	29⅜
Dixie Cup Co.	5.87	5.37	1.00	31¾
Flintkote Co.	6.27	5.83	2.50	34
Robert Gair Co. Inc.	2.83	2.59	0.40	7⅝
Great Northern Paper Co.	4.56	4.44	2.40	
International Paper Co.	15.02	15.62	4.50	59½
Johns-Manville Corp.	3.17	4.28i	1.40	39¾
Kimberly-Clark Corp.	4.29	4.52	1.40	19⅝
MacAndrews & Forbes Co.	3.68	3.53i	2.50	
Marathon Corp.	3.39c	3.93g	1.40	24⅜
Mead Corp.	7.33	7.10	2.00	19
National Container Corp.	4.13	3.11	1.20	11½
Paraffine Cos. Inc.	2.40a		1.20	22¾
Rayonier, Inc.	7.30	8.47	2.00	31⅞
Ruberoid Co.	10.88	12.13	2.75	65¼
St. Regis Paper Co.	2.66	2.86i	0.80	10½
Scott Paper Co.	3.02	3.49	2.20	
Sutherland Paper Co.	6.87	6.43i	2.50	
Taggart Corp.	1.29		0.60	
Union Bag & Paper Corp.	7.93	8.35	3.00	33¼
United Board & Carton	4.95b	3.39h	1.00	
U. S. Gypsum Co.	10.00	14.36i	6.00	105¾
United Wallpaper	(d)0.11a		—	
West Virginia Pulp & Paper	11.40c	11.56g	4.00	44⅞

(a) Year ended 6/30/48
(b) Year ended 5/30/48
(c) Year ended 10/31/47
(d) Deficit
(e) Plus extras
(f) Year ended 4/30/48
(g) 12 months to approximately 7/31/48
(h) 12 months to 8/21/48
(i) 12 months to approximately 9/30/48
(*) Pro forma

Dividends Declared

Fibreboard Products, Inc. — Year to April 30: Net income, $4,261,449, equal to $3.60 each on 834,612 common shares and 7.8 per cent on consolidated net sales of $54,507,912. This compares with $4,057,368 or $3.36 a common share and 8.8 percent on net sales of $46,163,018 for preceding fiscal year. Net working capital on April 30, last, increased to $13,468,686 from $10,734,333 a year earlier.

Hooker Electrochemical Co. reported estimated net income for the three months ended August 31 of $747,000, after provision of $445,000 for federal taxes. For the nine months ended August 31, estimated net income was $2,308,000 after provision of $1,415,000 for federal taxes, equal to $2.67 a share, after provision for preferred dividends.

Minnesota & Ontario Paper Co. — Nine months: Net profit $4,542,684, or $3.52 a share on net sales of $39.546,273, against $4,117,778, or $3.21 a share on sales of $35,916,919 last year.

Consolidated Paper Co. declared a dividend of 25 cents a share on common, payable December 1 to stock of record November 20.

Taggart Corp. has declared a dividend of 15 cents a share on its common stock, payable December 1, to stockholders of record November 5.

Clearing Arrears

VANCOUVER, B. C. — In connection with the payment on November 1, of $28 against arrears on the preferred stock of British Columbia Pulp & Paper Co. Ltd., Lawrence Killam, president, states that while no commitment is being made in the matter, it is the hope of the company that conditions will permit paying the balance of arrears in two payments.

This means that, following upon a payment of $28 per share, on current dividend arrears of the 7% preferred, the balance of the present total of $101.50, that is $73.50 per share, is likely to be paid off in 1949 and in 1950. This would leave the common stock (100,000 shares) in a strong position, both as to earnings and the probability of substantial dividend payments.

$528,548 Tax Refund

WASHINGTON—The Soundview Pulp Co., Everett, Wash., was given a tax refund of $528,548 by the Bureau of Internal Revenue on October 21. Soundview's refund was the second largest of 5,169 given within the last six years for over-payments on war-time "excess profits." All told, 51,006 such claims are reported to have been filed.

Fibreboard Seeks Loan

SAN FRANCISCO—Fibreboard Products, Inc., of California, is asking its stockholders for authority to borrow $25,000,000 from an insurance company on serial notes maturing over 20 years. The proceeds would be used to retire $15,000,000 of bank loans and furnish funds for expansion.

Dividends Climb

WASHINGTON—Publicly reported dividend payments for paper and printing combined, amounted to $19,200,000 in September, compared with $16,300,000 a year earlier, the Department of Commerce reported this week.

a complete paper machine installation in 16 months from the word "go"

This is the latest record of EBASCO engineers on a complete paper machine installation. For a southwestern paper mill, they did the complete job through their teamwork of engineering and installation.

Look for this same profitable speed in your own plans for expansion, modernization and installation of a complete new mill.

EBASCO designs buildings and equipment, purchases all components, erects and installs everything. We deliver to you *a paper machine in operation.*

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Obituary

Fitzallen Maughan Ellis, 70, retired president and chairman of the board of the Barber-Ellis of Canada Ltd., Toronto, died on October 12 at his home after a prolonged illness.

At one time Mr. Ellis was chairman of the Paper Trade Ass'n. He was a member of the Royal Canadian Yacht Club for more than 50 years, a member of the Lambton Golf Club, the Granite Club and the National Club. Mr. Ellis is survived by his widow, Grace Lillian Moore Ellis; a son, A. G. Ellis; and two daughters, Mrs. Florence Allardyce, and Diana Ellis. C. G. Ellis, general manager, and E. H. Ellis, president and chairman of the board of Barber-Ellis of Canada Ltd., are brothers.

Carl C. Schneider, 63, chemist for the Hawthorne Paper Co., Kalamazoo, Mich., died in that city on October 17. Mr. Schneider was born in Bad-Kreuznach, Germany, and attended Marburg University. Following a few years as a chemical examiner in Germany he joined the New York laboratory of the Badishe Company. He was later employed for 13 years with Knowlton Bros., in Watertown, N. Y., after which he joined the Hawthorne Paper Co. Mr. Schneider was active in TAPPI, of which he was a charter member, and was a former chairman of the TAPPI Kalamazoo Valley Section.

John Alfred Wilcox, 67, of Longview, Wash., died in Providence hospital in Portland, Ore., on October 8, following an extended illness. He had been on the engineering staff of the Longview Fibre Co., since 1930 as process engineer for that firm. He also served as a director of the company. Surviving are his widow, Mrs. Bertine Wilcox; two sons, John Martin of Portland and Robert E. of Seattle; and five grandchildren.

Fred C. Heinritz, 54, president of the Appleton Coated Paper Co., Appleton, Wis., died on October 19, after a two-month illness. For many years he was active in the Book Paper Mfr's. Ass'n., having served as a director of the Wisconsin Paper Group. He was a past-president of that organization.

Survivors are the widow; two sons, Fred T. and James; two daughters, Mrs. E. F. Marcellus and Rosann; two brothers and a sister.

Harry T. Williams, a sales representative in New York City for industrial paper concerns, died on October 9 at Mount Sinai Hospital. Mr. Williams lived at 33-38 Parsons boulevard, Flushing, Queens. Surviving him are his widow, Mrs. Helen Horn Williams; a son, George; a sister and a brother.

Fred J. Winter, 69, retired paper merchant, died at his home in Toledo, Ohio, after a long illness. Mr. Winter was a partner in the Winter Paper Co., Cleveland.

Surviving are his wife, Mrs. Frieda Winter; daughter, Mrs. Evelyn Blanchong, five brothers, John Henry, Herman, Louis, and Frank, and three sisters, Mrs. Elizabeth Williams, Mrs. Anna Bischoff, and Mrs. Martha Nevel.

William A. Smith, 64, New York sales manager of the F. M. Burt Co., paper box manufacturers, died on October 20 at his office following a heart attack. Mr. Smith, who lived at 441 Bronxville road, Bronxville, N. Y., is survived by his widow, Mrs. Florence J. Smith; a daughter, Shirley-Clair Smith; and two sons, Robert F. and William W. Smith.

Le Roy C. Odell, 53, who for 25 years had been assistant secretary and treasurer of the Gaylord Container Corp., St. Louis, died of tuberculosis on October 9 at Colorado Springs, Colo. He is survived by his widow, Mrs. Rose Marie Odell; a daughter, Mrs. L. K. Edwards and a son Roy C. Odell Jr.

Bernard D. Fleming, 74, retired superintendent of the Mount Tom Sulphite Co., Holyoke, Mass., died on October 14. Mr. Fleming was associated with Mount Tom Sulphite for 53 years, prior to his retirement two years ago.

Robert M. Davis, 56, office manager of the Central Ohio Paper Co., Cleveland, died on October 18. A daughter survives him.

Meetings

ASSOCIATION EXECUTIVES: Please send us your meeting dates and locations for this column as far in advance as possible. No charge for publication.

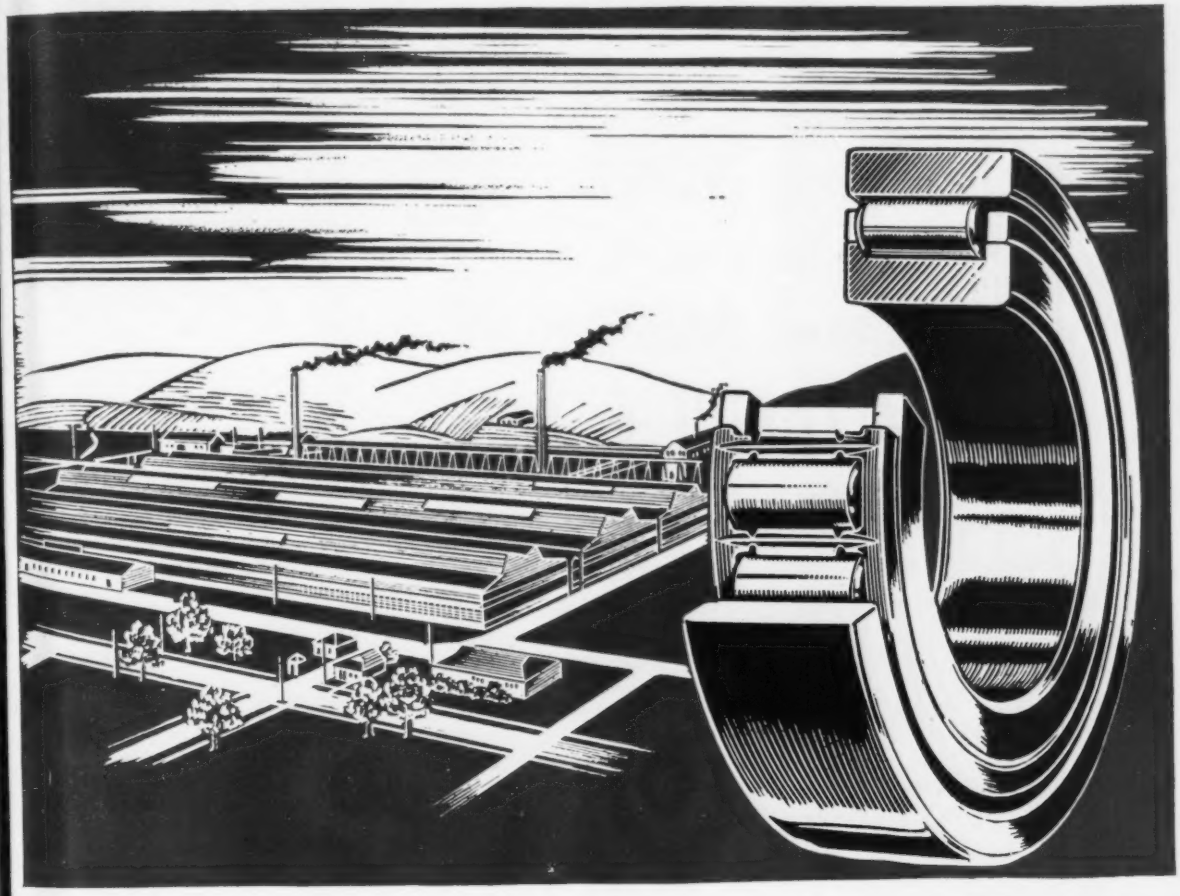
OCTOBER 28-30: National Paper Trade Ass'n. Fall Convention. Stevens Hotel, Chicago, Ill. For details write to Arthur H. Chamberlain, 220 East Forty-Second Street, New York 17, N. Y.

NOVEMBER 4: American Society for Testing Materials, St. Louis District. Joint meeting with St. Louis Chapter, American Society for Metals. Engineers Club.

NOVEMBER 4-5: Third Midwest Conference, American Society for Quality Control, Hotel Sherman, Chicago. For details, write to E. H. Robinson, Chairman, Publicity Committee, P. O. Box 1097, Chicago, Ill.

(Continued on page 30)

YES! Tycol Acylkup Greases perform better...BETTER...BETTER



Tycol Acylkup Greases perform better because:

. . . *Tycol Acylkup Greases* contain paraffine base cylinder oil, thus assuring greater load carrying capacity and a strong "film of protection."

. . . *Tycol Acylkup Greases* are water-repellent and blended with the finest calcium soap, enough to make every application "stay put" at all times.

. . . *Tycol Acylkup Greases* have a smooth, non-fibrous structure that permits easier application in grease guns and central lubricating systems.

. . . *Tycol Acylkup Greases* safeguard precision anti-friction bearings and heavily loaded gears alike . . . *save* by standardizing on Tycol!

Complete information on Tycol Acylkup Greases is available from your nearest Tide Water Associated Office. Call or write in today.

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TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N. Y.

Meetings

Continued from page 28

NOVEMBER 9-10: Pacific Coast Div'n., National Ass'n. of Waste Material Dealers, Inc., Palace Hotel, San Francisco.

NOVEMBER 10: American Society for Testing Materials, Philadelphia District. Franklin Institute.

NOVEMBER 16: American Society for Testing Materials, Cleveland District. Cleveland Engineering Society.

NOVEMBER 18-19: Production Conference, American Management Ass'n. Hotel Drake, Chicago.

NOVEMBER 19: American Society for Testing Materials, New England District. Hotel Sheraton, Worcester, Mass.

NOVEMBER 29: American Society for Testing Materials, Pittsburgh District, Mellon Institute.

DECEMBER 2-3: Insurance Conference, American Management Ass'n. Hotel Drake, Chicago.

Which of these jobs can TAMOL do better for you?

PITCH CONTROL. Through the years, Rohm & Haas TAMOL P has demonstrated its value for positive pitch control on sulfite and groundwood pulps . . . Original cost is low (2 to 3 pounds per ton of pulp being sufficient generally)—and costly shutdowns for cleanups are minimized. TAMOL P is non-abrasive and non-corrosive. It is supplied in convenient dry form.

PIGMENT DISPERSION. Rohm & Haas TAMOL P is an efficient dispersing agent and deflocculant for calcium carbonate, titanium dioxide, clays, carbon black and other pigments. It is highly effective in alkaline systems. It is very useful in promoting fluidity in starch-bound coating colors.

GLUE PRECIPITATION. Rohm & Haas TAMOL P, used as a precipitant for animal glue in the beater, results in highly increased retention. It is added after the size, alum and glue solution—and is also used with the animal glue in the head-box or beater to aid in retention of fillers and fines.

If you have these manufacturing problems, write today for further information regarding TAMOL P—another of the Rohm & Haas group of time-tested paper chemicals.

Tamol is a trade-mark, Reg. U.S. Pat. Off

ROHM & HAAS COMPANY

Philadelphia 5, Penna.

FTC Complaint 5592

(Continued from page 9)

Yellow Book. Each respondent merchant uses these books in quoting prices and sells at the specific prices listed, so that competition among them as to price has been "destroyed," according to the complaint.

In describing the respondents' "policing system," the complaint charges that in cases of "deviation from fixed prices," officers or other representatives of the regional associations concerned "contact the alleged violator with the result that fixed prices are adhered to in future transactions." In addition, the complaint alleges that the national association maintains contact committees to work with the member associations "in dealing with recalcitrant and more important price violators," and also to "devise more effective methods for developing and maintaining uniform identical prices."

Although the complaint specifically names only 94 distributors of fine and wrapping paper as respondents in their individual capacity and as representatives of the membership of the regional associations and the national association, the complaint does name all of the merchant members of the associations as "class respondents." The complaint says that the 94 merchant members specifically named as respondents are "fairly representative" of a class "so numerous and changing" as to make it impracticable to specifically designate each of them within the complaint proper as a party respondent. The current membership lists of each regional association—listing approximately 1,000 distributors of paper—are made exhibits to the complaint, however, with those so listed named as "class respondents."

Respondents named in the complaint proper in addition to the national association are: Arthur H. Chamberlain, W. G. Leathers, and J. H. Londergan, all of New York, officers of the national association; John L. Richey, Cincinnati, an officer of four of the regional trade associations.

Central States Paper Trade Ass'n., Diem & Wing Paper Co., Chatfield Paper Corp. and Cincinnati Cordage & Paper Co., all of Cincinnati; Indiana Paper Co., Indianapolis.

Fine Paper Ass'n., of Chicago, Inc., and its secretary, G. Forrest Gillett; Chicago Paper Co., Hobart Paper Co., Swigart Paper Co., and Bradner Smith & Co., all of Chicago.

District of Columbia Paper Merchants Ass'n., and its secretary, William N. Schaefer; Charles G. Stott & Co., Inc., Frank Parsons Paper Co., Inc., Stanford Paper Co., and Jacob N. Freedman and Joseph Freedman, copartners trading as S. Freedman & Sons, all of Washington.

Empire State Paper Ass'n., Inc., and its secretary and treasurer, W. B. Dunning, both of Auburn, N. Y.; Miller Paper Co., Inc., and J. & F. B. Garrett Co., both of Syracuse; W. H. Smith Paper Corp., Albany; Geneva Paper Co., Geneva, N. Y.

Illinois State Paper Merchants Ass'n., Cincinnati; Duckett Paper Co., Champaign, Ill.; Rockford Wholesale Paper Co., Rockford, Ill.; Capital City Paper Co., Springfield, Ill.; Intercity Box & Paper Co., Freeport, Ill.

Iowa Paper Distributors Ass'n., and its sec-

retary, Herbert F. Stoffle; Pratt Paper Co., and Bermingham & Prosser Co., all of Des Moines; Clinton Paper Co., Clinton, Iowa; Peterson Paper Co., Davenport, Iowa.

Maryland Paper Trade Ass'n., Inc., and its secretary, Charles B. Leonard; Mudge Paper Co., Bradley-Reese Co., Robins Paper Co., Inc., and the Barton, Duer & Koch Paper Co., all of Baltimore.

Middle States Wrapping Paper Ass'n., Cincinnati; Union Paper & Twine Co., Globe Paper Co., and National Paper & Twine Co., all of Cleveland; Central Ohio Paper Co., Columbus, Ohio.

Midwest Paper Merchants Group and its executive secretary, Carll V. Kretsinger; Wertgame Paper Co., Butler Paper Co., Kansas Paper Co., Inc., and Weber Paper Co., all of Kansas City, Mo.

New England Paper Merchants Assn., Inc., and its executive secretary, Norman E. Scott; Cook-Vivian Co., Inc., Century Paper Co., Inc., Tileston & Hollingsworth Co., and John Carter & Co., Inc., all of Boston.

Northwestern Paper Trade Ass'n. and its secretary, Wendell O. Hawkins; John Leslie Paper Co., Paper Supply Co., and Newhouse Paper Co., all of Minneapolis; Anchor Paper Co., St. Paul.

Paper Trade Ass'n. of New Jersey and its executive secretary, David H. Rice, both of Irvington, N. J.; Jersey Paper Co., Inc., New Brunswick, N. J.; David Liberman and Isidore Liberman, copartners trading as J. Liberman & Co., Jersey City; Commercial Paper Bag Co., Inc., and H. G. Mooney Co., both of Newark.

Paper Trade Ass'n. of Philadelphia and its executive secretary, David S. Stockslager; Acorn Paper Co., Eagle Paper Co., Mather Paper Co., and Quaker City Paper Co., all of Philadelphia.

Pittsburgh Paper Ass'n. and its executive secretary, Robert Engel; Chatfield & Woods Co. of Pa., Interstate Cordage & Paper Co., and Morris Paper Co., all of Pittsburgh; Anderson Paper & Twine Co., Johnstown, Pa.

Southern Paper Trade Ass'n. and its executive secretary, Clarence E. Dobson; D & W Paper Co., Inc., Columbia Paper Co., Inc., Alco Paper Co., and E. C. Palmer & Co., Ltd., all of New Orleans.

Southeastern Paper Trade Ass'n., Inc., and its secretary, Harry M. Snyder; and Spaugh Paper Co., all of Hickory, N. C.; Dillard Paper Co., Greensboro, N. C.; B. W. Wilson Paper Co., and Richmond Paper Co., Inc., both of Richmond, Va.

Southwestern Paper Merchants Ass'n., and its executive secretary and counsel, Lewis C. Johnson, both of Tulsa, Okla.; Olmsted-Kirk Co., and Carpenter Paper Co., both of Dallas; Magnolia Paper Co., and Southwestern Paper Co., both of Houston.

Wisconsin Paper Merchants Ass'n., Cincinnati; Brauman Paper Co., Green Bay, Wis.; Universal Paper Co., Appleton, Wis.; Sawyer Paper Co., Neenah, Wis.; Standard Paper Co., Milwaukee, Wis.

Fine Paper Ass'n. of Wisconsin, Inc., and its secretary, Curtis W. Boyce; Nackie Paper Co., Moser Paper Co., and Bouer Paper Co., all of Milwaukee; Oshkosh Paper Co., Oshkosh, Wis.

Metropolitan Bag & Paper Distributors Ass'n., Inc., New York; and secretary, Fred Free, Jr.; A. E. MacAdam & Co., Inc., John H. Free, Inc., and Shuttleworth Wollny Co., Inc., all of Brooklyn; S. Posner Sons, Inc., Maspeth, Long Island, N. Y.

Cosmopolitan Twine & Paper Ass'n., and its president, David Kasson; and Yorkville Paper Co., Inc., all of New York; Harlem Paper Products Corp., and Imperial Bag & Paper Co., Inc., both of Bronx, N. Y.; and Liberty Bag & Paper Co., Brooklyn.

(Continued on page 32)

Alhydro FLOC PRODUCER

...REDUCES CHEMICAL STORAGE PROBLEMS IN INDUSTRIAL OR MUNICIPAL WATER TREATMENT PLANTS

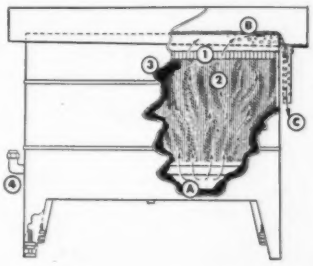
"Right!

69 lbs. of aluminum treats as much water as nearly 3/4 ton of coagulants"

By employing the principle of low voltage, DC, electrolytic dissolution of aluminum plates in water, the Alhydro Floc Producer greatly reduces the necessity for protecting and storing bulky chemicals. In addition, the Alhydro Floc Producer easily provides the simplest and most foolproof answer to the problem of removing color and suspended matter from process or drinking water. It produces a readily controllable concentration of remarkably stable floc . . . even under water conditions so adverse that floc formation would be impossible with older methods.

One Alhydro Floc Producer will treat an average of 300,000 gallons of water per day . . . but the units can be used singly or in multiples in present or proposed water treatment plants.

SKILLFUL ENGINEERING OF THE ALHYDRO FLOC PRODUCER
gives simplicity of operation . . . ease of maintenance



1. **Connector Bar on each side of tank**
2. **Alternate Stainless Steel and Aluminum Plates.**
3. **Composition rubber lined stainless steel tank**
4. **Water Feed Line easily removed for inspection**

A. Water enters tank through slots in feed pipe.
B. Concentrated floc is carried to the top and leaves through discharge trough.
C. Discharge pipe feeds floc to raw water.

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Read this folder which illustrates and describes the advantages of the compact Alhydro Floc Producer. See how you can simplify the treatment of drinking water or water for industrial use. Write for your free copy today.

ALHYDRO, INC. *DEPARTMENT 100-C* **516 N. CHARLES ST., BALTIMORE 1, MD.**

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(Continued from page 31)

Paper Ass'n. of New York City and its secretary, Irwin Slote; Graphic Paper Corp., Capital Paper Co., and Royal Paper Corp., all of New York; Bonded Paper Products Co., Long Island City, N. Y.

Whitaker Paper Co., Cincinnati; and Graham Paper Co., St. Louis, Mo. (The last two named respondents are members of regional trade associations but have resigned as members of the national association.)

The respondents are granted 20 days in which to answer the complaint, which charges violation of the Federal Trade Commission Act.

* * *

NPTA Comment

Commenting upon the Federal Trade Commission complaint, the National Paper Trade Ass'n. issued the following statement:

"Charges of violation of the Federal Trade Commission Act made by the Federal Trade Commission in a complaint against The National Paper Trade Association and its constituent local associations were emphatically denied by executives of the Association. President Ralph G. Luff, Philadelphia, stated that from the complaint, coming after several months of intensive field investigation, it appears that the Commission has come up with a series of sweeping generalizations which have no substantial basis of fact. Said Mr. Luff, 'I am astonished at these charges which will seem absolutely fantastic to the trade. If prices are uniform in the paper trade, it is news to my company as well as to our competitors, and our customers certainly haven't found it out. There is a continual competitive scramble in our market. We get some orders because our price is low and lose others because we are told our prices are too high. There are over 1,000 members of our Association all over the country. More than another thousand paper dealers do not belong to our Association. The regulation and policing of such a business as alleged would be an utter impossibility.'

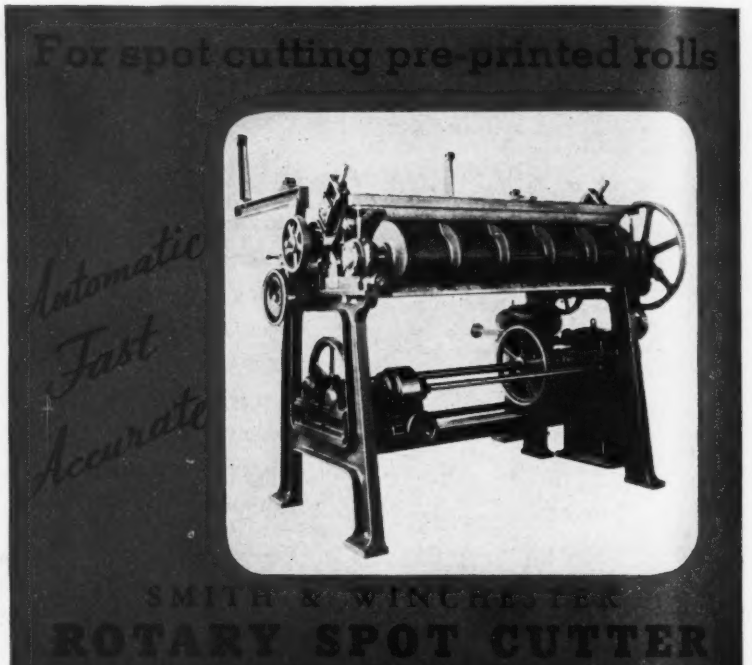
"Mr. Luff pointed out that fine paper distributors service printers in almost every city and town in the country, while distributors of wrapping paper and paper products service almost every kind of business. Such local service is especially essential to small business and its impairment would cripple small business seriously. 'The Senate's Capehart Committee,' he continued, 'is inquiring into the matter of delivered prices and freight equalization to meet competition, and the last word on this item of the complaint may come from Congress. In the meantime, The National Paper Trade Ass'n. intends vigorously to defend its activities.'

"The National Paper Trade Ass'n. was founded in 1903 and has well over 1,000 members. The fine and wrapping paper distributing trade does an annual volume of business exceeding one billion dollars. The Association had an enviable record of cooperation with the NRA during the depression, and during the war period with WPB, OPA and other Governmental agencies. The spokesman for the Association asserted that nothing in this Federal Trade Commission complaint should be permitted to reflect on that record.

"Simultaneously with its complaint above referred to, the Federal Trade Commission announced that it had approved for public hearing 27 Trade Practice Rules substantially as applied for by the National Paper Trade Ass'n. at a preliminary industry conference held in New York last April. November 16 is the date set for the hearing in Washington preliminary to the promulgation of the rules."

Lithgow Eastern Plant

NORWALK, Conn. — The Lithgow Corp., applicator of protective linings based on Bakelite phenolic resins, formally opened its new plant here on October 22. It will serve the paper industry and others with Lithcote linings for storage and process tanks, pipe and fittings, tank cars, and other industrial equipment. The main Lithgow plant is in Chicago.



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Application of Instrumentation To Sulphate Digesters

By E. A. MURPHY and H. A. SCHOLL

Brown Instrument Co., Philadelphia, Pa.

Regardless of the type of digester or cooking process employed, it is a fact universally recognized by sulfate superintendents that the degree of control of critical process variables within the digester exerts a definite influence on the yield as well as on the characteristics of pulp produced.

In some mills, this control is accomplished manually by the *digester cook* who through utilization of his skill and knowledge applies the information supplied by industrial indicating and recording instruments to adjust steam input and digester relief during the cooking cycle. These instruments, while performing a vital function, do not relieve the cook of any purely mechanical tasks. In order to insure properly cooked pulp, he must first observe the instrument readings and secondly he must make the necessary manual adjustments to steam and relief valves.

Realizing that freedom from time consuming mechanical duties would enable the digester cook to devote more time to those tasks requiring the application of human skill and knowledge, mill operators, in conjunction with instrument manufacturers approached the problem of *automatic* digester control.

Basic Operating Variables

In any sulfate digester, the two variables which will respond successfully to automatic control are temperature and pressure, both of which must be controlled in accordance with definite time patterns, These time-temperature and time-pressure patterns will vary with the type of wood and cooking process employed, each mill establishing a set of conditions which will result in the production of pulp possessing the desired characteristics. Once these conditions are established, however, it is essential that they be reproduced faithfully from cook to cook if yield and pulp quality are to be maintained at optimum values.

Individually Engineered Instrumentation

The many types of sulfate digesters in use render impractical the design of an automatic control system which will be universally acceptable. For example, the control problem presented by a forced circulation indirect cook digester differs materially from that presented by the natural circulation direct cook type. In the former, it is practical to locate a temperature-sensitive element in the liquor circulating line, while in the latter it is necessary to insert this element directly through the digester wall. Because of variations in digester design as well as differences of opinion among digester superintendents as to the proper basis for controlling the flow of cooking steam, best results are obtained when control

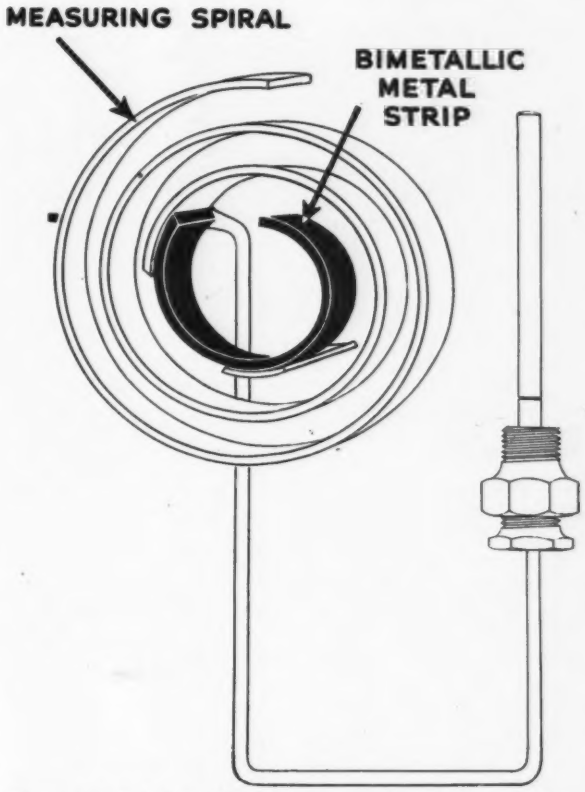

Figure 1 Sealed thermal system from recording thermometer showing: temperature sensitive bulb, armored capillary tubing, spiral actuating element, and bimetallic strip which compensates for changes in ambient temperature.

systems are individually engineered to meet mill requirements.

Through conferences with mill personnel who are thoroughly familiar with process conditions and results desired, the instrument engineer can obtain a clear picture of the control problem presented. Once he has this picture, he is able, by proper combinations of basic instruments, to design a satisfactory control system.

Basic Instruments

There are several basic instruments which are employed in various combinations to provide the type of instrumentation desired. A brief description of each instrument will aid in following the operation of the control systems later discussed.

Recording Thermometers: These instruments, which

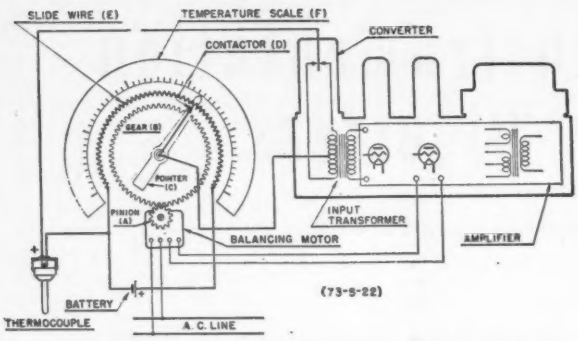

Figure 2 Schematic drawing illustrating operating principle of ElectroniK potentiometer pyrometer.

may be gas, vapor, or mercury actuated, consist of a temperature-sensitive bulb, a length of armored capillary tubing, and a spiral actuating element—all of which comprise a sealed thermal system (see Fig. 1) containing the actuating medium under pressure. When the bulb is exposed to an increase in temperature, expansion of the actuating medium causes an increase in pressure which is transmitted through the capillary tubing to the spiral. Under increased pressure, this element unwinds slightly, and, being mechanically linked to a recording pen, causes a change in the chart record. When employed as a controller, the instrument includes a pneumatic or electric control unit which is also operated by the recording pen.

Recording thermometer controllers frequently possess sufficient sensitivity and speed of response for digester applications and are widely used for sulfate digester instrumentation. They have, however, several inherent limitations which should be carefully considered by a mill operator before specifying thermometers over potentiometer pyrometers or resistance thermometers on a digester control system.

Initial cost of a recording thermometer depends greatly upon the distance between the point of measurement (thermometer bulb) and the recording instrument, since this cost increases with the length of capillary tubing required. With the present trend toward centralized instrument panels, a condition can arise where this tubing length will cause the cost of a thermometer to approach very closely that of a potentiometer pyrometer.

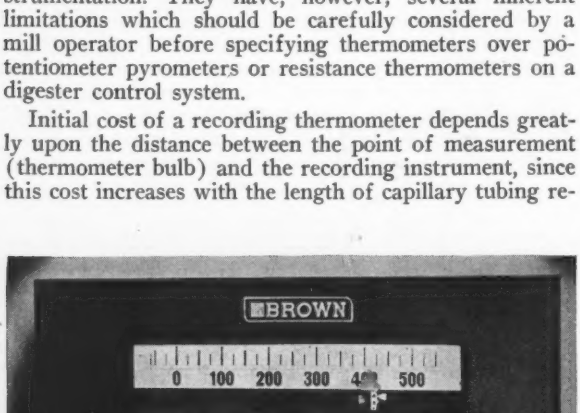

Figure 3 Multiple-record strip chart ElectroniK potentiometer.

Lengthy runs of capillary tubing can, of course, be eliminated by employing an andicating pneumatic transmitter adjacent to the point of measurement, and a recording receiver on the master control panel. Here again, however, the initial cost of the pneumatic transmitter plus that of the recording received closely approximates that of a pyrometer type instrument.

Although maintenance of a thermometer presents no particular problem, barring damage to its capillary tubing, a break in this tubing gives rise to many difficulties. In the first place, on-the-spot repairs are impossible. The entire thermal system must be replaced as a unit. Even though spare thermal systems are kept on hand at the mill, the instrument will be out of service for a considerable amount of time while the replacement is being made. When no replacement thermal system is available, the entire system must be returned to the factory for repair. This instrument "down time" factor assumes particular significance when the thermometer is a controller.

Electronic Potentiometer Pyrometers: The thermocouple actuated electronic potentiometer pyrometer, employed extensively in all of the major industries, incorporates several advantages which render it particularly suitable for measurement and control of digester temperature.

With the electronic pyrometer, the temperature-sensitive element is a termocouple comprising two lengths of dissimilar wire welded together at one end. When this welded end (hot junction) is exposed to an increase in temperature, the thermocouple generates a small voltage bearing a fixed relationship to the temperature increase. A decrease in the hot junction temperature results, of course, in a drop in the generated voltage. The thermocouple is connected to the electronic recording instrument as shown in Fig. 2 by means of flexible two-conductor electric cable specially selected for its thermoelectric properties. In the instrument is an electronic circuit which converts the voltage generated by the thermocouple to mechanical motion capable of positioning a pen, pointer, and, when required, a pneumatic or electric control unit.

The increased sensitivity and speed of response of an electronic potentiometer pyrometer over a thermometer, while relatively unimportant when dealing with direct cook natural circulation digesters, become significant factors when considering the instrumentation of a digester of the indirect cook forced circulation type.

In the former case, the temperature-sensitive element is inserted through the wall of the digester, and the large process lag occasioned by the mass of chips and liquor tends to lessen the advantages gained by the increased sensitivity and speed of response of the electronic instrument.

An indirect heated forced circulation digester, however, presents an entirely different control problem. Since the liquor usually flows through the heater at rates in excess of 1000 gpm, it is apparent that correct control of steam flow to the heater can be achieved only through rapid measurement and high speed control action.

On this application the small mass of a thermocouple plus the sensitivity and speedy response of an electronic

instrument are definitely advantageous in obtaining optimum control.

Additional advantages of the electronic instrument are ease of installation and remarkably low "on the spot" maintenance. Thermocouples, for example, are simple to install, are not readily damaged, and can be easily replaced when necessary. The flexible electrical cable which replaces the capillary tubing required with a thermometer presents no installation problem and, if damaged, can be spliced by mill personnel in the matter of minutes.

Since the recorder is connected to the thermocouple by electrical conductors, remote location of the former is facilitated.

Another feature frequently overlooked is the ability to employ a single instrument to indicate or record temperatures measured by a number of remotely located thermocouples. When multiple recording is desired, the instrument shown in Fig. 3 can provide up to sixteen separately identified temperature records on a single chart. In the indicating type, (Fig. 4) an instrument is available to handle up to forty-eight different temperatures by means of appropriately labeled, integrally mounted push buttons.

Resistance Thermometers: In external appearance and method of operation, the resistance thermometer closely resembles the potentiometer pyrometer. More expensive than the latter and not quite so simple to install and maintain, the resistance thermometer system provides exceptional accuracy, especially when dealing with relatively narrow temperature spans. Since the problem of digester control normally does not require the characteristics manifested by this system, it is included in this discussion as a matter of general information.

The temperature-sensitive element consists of a resistance thermometer pulb, briefly, a wire coil which changes in resistance as the temperature to which it is exposed varies. The pulb is connected, again by means of electrical conductors, to the recorder which interprets this resistance change in terms of temperature. With the exception of changes in the measuring portion of its internal electronic circuit, the recording instrument is identical to the potentiometer pyrometer.

Pressure Recorders: Instruments employed to measure digester pressure incorporate spiral elements which, when exposed to an increase in pressure, behave similarly to the actuating elements in recording thermometers, i.e., they tend to unwind, and by so doing, reposition the instrument pen. Although other pressure elements are sometimes used, the spiral provides greatest pen torque, thus overcoming pen friction and tapping error.

Pressure gauges like thermometers, are available as indicating pneumatic transmitters and as pneumatic or electric controllers.

Flow Meters: Differential-pressure type flow meters base their operation upon the relationship between rate of flow and the differential between the pressures measured up and downstream from a restriction placed in the flow line. This pressure difference is established by means of an orifice plate inserted in the flow line, (see Fig. 5) and is measured by a meter body, (in essence-a mercury manometer) which can be either electric or mechanical.

In the electric meter body, shown in Fig. 5, the pressure differential, measured by a float riding on a pool of mercury, is transmitted electrically to a remotely located recording receiver.

Figure 4 ElectroniK precision indicator. Available to indicate temperatures measured by 6, 12, 18, 24, 30, 36, or 48 primary measuring elements.

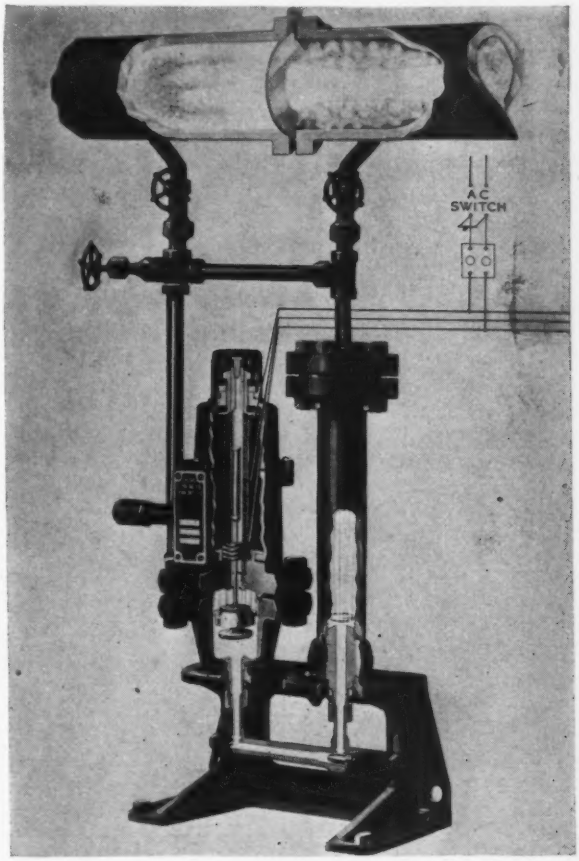

Figure 5 Differential pressure type flow meter showing orifice plate, pressure piping, and cut-away view of electric meter body.

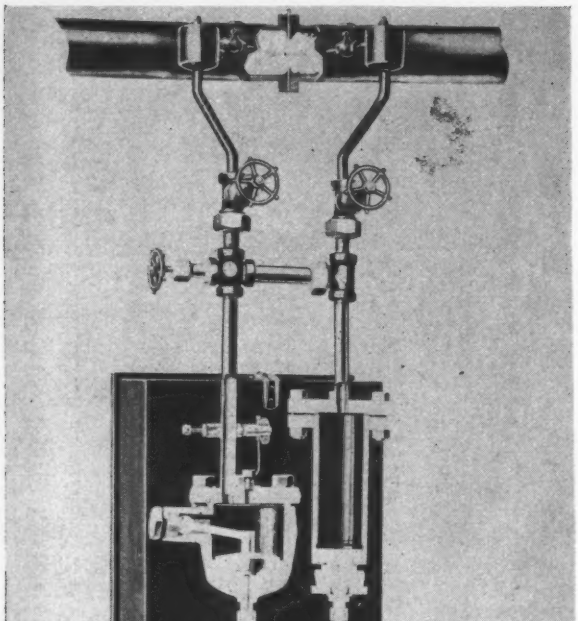

Figure 6 Cut-away view of mechanical flow meter showing meter body as mounted on back of instrument case.

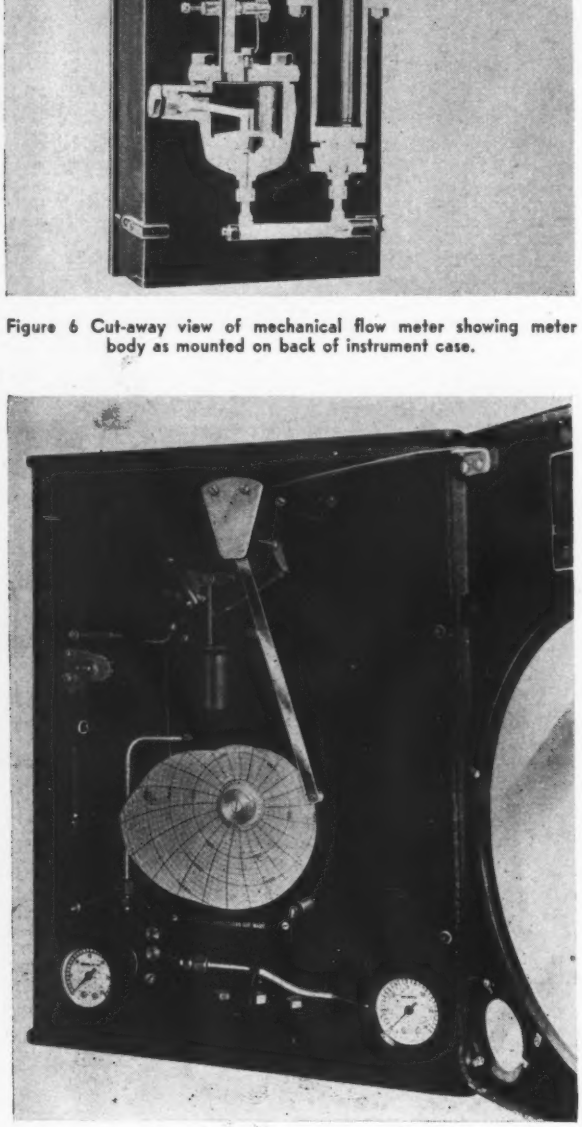

Figure 7 Time-Pattern transmitter showing cam, follower, and bellows unit which pneumatically positions set-point index in master controller.

In the mechanical flow meter, seen in Fig. 6, the meter body is an integral part of the recording instrument, the float motion being transmitted mechanically to the recording pen. When remote location of the recorder is desired, the electric flow meter is highly practical, since its use involves no lengthy runs of expensive and hazardous high pressure piping between the point of measurement and the recorder. Similar results can be obtained by applying pneumatic transmission to the mechanical flow meter.

Both electric and mechanical flow meters can be supplied as pneumatic or electric controllers, or an integrators to provide indication and record to total flow units as well as rate of flow.

Time Pattern Transmitters: Any desired time-temperature, time-pressure or time-flow pattern can be obtained and faithfully reproduced on successive cooks by employing Time-Pattern transmitter with the appropriate control instruments.

The Time-Pattern transmitter, Fig. 7, consists of a cam, driven by an electric clock motor and cut to the shape of the desired pattern; a follower which rides upon the cam; and a device for translating mechanical motion of the follower, produced by changes in the configuration of the cam surface, into changes in transmitted air pressure. This transmitted air pressure is piped to an Indexet unit within the control instrument and serves to position the set point index of this instrument.

When used in conjunction with a temperature controller, for example, the operation of a Time-Pattern transmitter is as follows: a cam cut in the form of the desired time-temperature pattern is rotated at constant speed. When the surface of the cam calls for an increase in temperature, the Time-Pattern transmitter shifts the set point index of the temperature controller an appropriate distance up scale. When a decrease in temperature is called for, reverse control action takes place.

Integral By-Pass: All of the control instruments previously referred to are available with integral by-passes. This device is supplied as an integral part of the control instrument and provides four-position switching action. The two control knobs and the air gauge make it possible to switch the controller to any one of four positions ("Automatic", "Manual", "Test", or "Service") and to operate the control valve manually from the control cubicle. The shift from "Automatic" to "Manual" and vice versa is made without disturbing the controlled air pressure.

Typical Control Systems

The following examples will illustrate results which can be obtained by adapting certain basic instruments to solve control problems presented by specific process conditions.

Direct Cook Natural Circulation Digester: The system shown in Fig. 8 is typical of that supplied for direct cook natural circulation sulfate digesters. In this case, an electric meter body measures the flow of cooking steam. Two instruments are connected in electrical parallel to the meter body. An indicating pneumatic flow controller with Indexet, (remote index positioning device) operating in conjunction with a Time-Pattern transmitter, automatically supplies steam to the digester on a time-flow basis. The second instrument, frequently located on the boiler house or turbine room panel, records and integrates steam flow to the digester. Use of

this integrating recorder aids the power engineer greatly in maintaining the proper steaming rate and in prorating total steam consumption among the various mill processes.

The indicating flow controller is provided with an integral by-pass which permits instant changeover from automatic to manual control of the steam valve.

A multiple record, strip chart, ElectroniK potentiometer provides on a single chart a record of five temperatures measured by thermocouples placed at various locations throughout the digester. The obvious advantage of such a temperature measuring system is the fact that a quick glance at the chart is sufficient to inform the digester cook of an unusual or undesirable temperature gradient within the digester. The instrument shown is capable of supplying up to six temperature records.

A recording pressure gauge provides a continuous record of digester pressure. Chips and liquor are prevented from entering the pressure element by an oil seal.

Although, for clarity, the instruments are shown mounted individually, they are normally mounted on a master control cubicle located on the digester operating floor as shown in Fig. 9. These cubicles can be supplied with all control instruments wired, piped and mounted—a feature which greatly simplifies installation.

Indirect Cook Forced Circulation Digester: Shown in Fig. 10 is the typical instrumentation for an indirect cook forced circulation sulfate digester utilizing Northern wood. In this instance, little trouble is experienced with foaming or liquor pull-over on gassing off. The instruments are shown mounted on a steel cubicle. Since all necessary wiring and piping behind the panel are done before the cubicle leaves the factory, mill personnel find that installation is greatly simplified.

The temperature-sensitive elements (thermocouples) are inserted in the liquor circulating line and through the digester wall, and are linked electrically to a two-position, spring return key switch which can connect either thermocouple to an ElectroniK potentiomater pyrometer controller. In its normal position, this switch continuously connects the controller to the couple mounted in the liquor circulating line. Digester temperature can be checked quickly by the operator who need

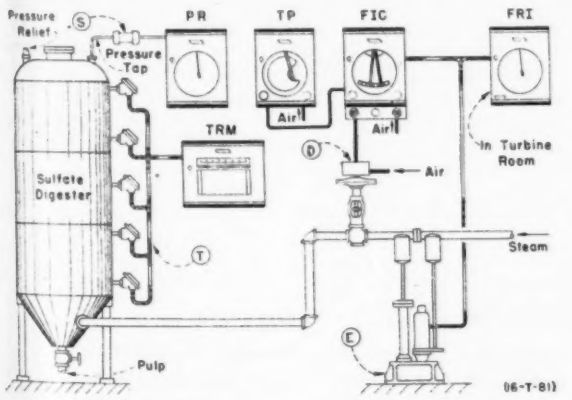

Figure 8 Typical instrumentation for direct cook, natural circulation sulfate digester.

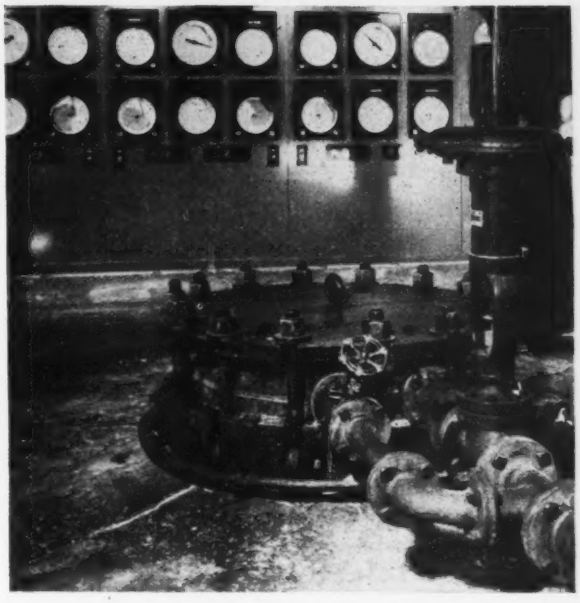

Figure 9 Typical control cubicle for battery of digesters. Automatically controlled relief valve visible in foreground.

only place the instrument momentarily on manual control by means of the integral by-pass, and depress the toggle switch. After noting the temperature, as indicated and recorded by the instrument, the operator releases the toggle switch, thus automatically reconnecting the recorder to the controlling couple, and switches the instrument back to automatic control.

The ElectroniK potentiometer continuously records the temperature of the liquor leaving the heater, and by positioning the diaphragm motor valve controlling steam flow to this unit, maintains the liquor at the temperature called for by the cam in the time-Pattern transmitter.

Digester pressure is held automatically at the proper value by means of a recording pressure controller which operates the relief valve. This instrument is also equipped with an integral by-pass permitting manual operation of the relief valve, and operates in conjunction with a second Time-Pattern transmitter.

An indicating electric flow meter shows the rate of flow of cooking steam to the digester. Although not illustrated, a second instrument, an integrating recorder, is usually connected in electrical parallel with the indicator as described in the discussion of direct cook natural circulation digesters.

Rate of liquor flow through the circulating system is measured and recorded by another flow meter. This instrument reading provides a positive check on chip screen or heater stoppages and fluctuations in pump operation.

Many Other Control Systems Employed

As previously stated, the systems shown in Figs. 8 and 10 are intended to be typical. Space limitations preclude a complete discussion of the many possible methods of controlling sulfate digesters.

In one instance, a mill employed a combintion of direct and indirect cooking and made use of both low and high pressure steam sources. It was required that,

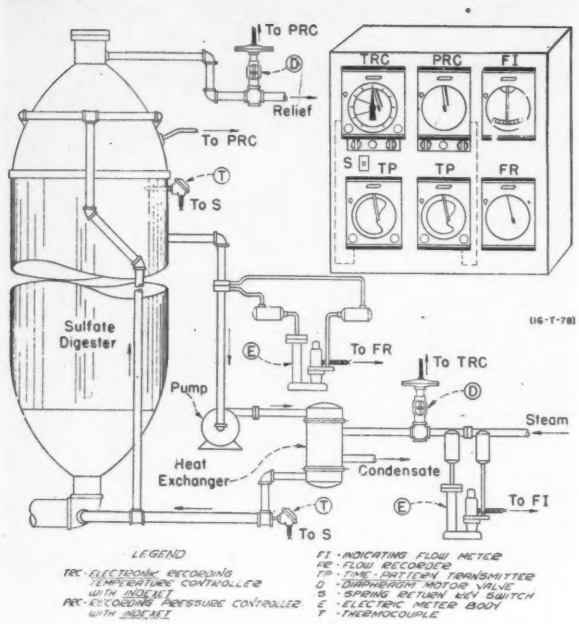

Figure 10 Typical instrumentation for direct cook, forced-circulation sulfate digester.

initially, indirect cooking be used utilizing low pressure steam. As the cook progressed, the low pressure steam must be shut off and high pressure steam admitted. Later during the cook, it was desired to change over from indirect to direct cooking for the completion of the cycle.

Starting out with a thermocouple-actuated ElectroniK potentiometer controller and a Time-Pattern transmitter as basic instruments, and adding a series of pneumatic and pneumatic-electric relays, instrument engineers worked out a control system that automatically performs all of the necessary operations in the desired sequence.

Considering the time which would be consumed in observing instruments and manipulating valves if manual digester operation were employed, it is evident that this control system, in addition to assuring faithful reproduction of process conditions on successive cooks, provides the digester cook with more time for the performance of duties requiring his skill and knowledge.

Control of Digester Relief

Operators of sulfate mills in the South are well aware of the difficulties encountered in applying automatic control to digester relief. In addition to excessive foaming which is often responsible for liquor pull-over and stoppage of the chip screen, other variables peculiar to the sulfate process complicate the problem still further.

There are available at present several types of systems for automatically controlling sulfate digester relief. Although these systems do solve some of the problems involved, investigations indicate that no method of automatic relief control now in use is capable of handling all of the variables to the complete satisfaction of sulfate superintendents.

An entirely new control system which promises to supply the answer to the sulfate digester relief problem is now in a well advanced stage of development. Details of the system will not be released, however, until adequate field testing has proved its worth.

Adequate Service Facilities Vital

In the selection of industrial instruments for pulp and paper mill processes ample consideration should be given to the service facilities offered by the instrument manufacturers.

Because of the remote locations of many mills, damage to a key control instrument can seriously impair both process efficiency and mill production unless a skilled service engineer is readily available. While such a condition is less likely to occur in mills which maintain a staff of trained instrument technicians, it can become a matter of grave importance to those mills which rely upon the instrument manufacturer for emergency service.

Since, regardless of its design features, an industrial instrument, like any other piece of process equipment is susceptible to mechanical damage, the availability of trained service engineers is a significant factor in the selection of mill instrumentation.

Summary

In summation, it can be stated that the cooking process is one of the vital importance, affecting as it does, all subsequent paper making operations. Since there is neither a "standardized" cooking cycle or a "standardized" sulfate digester, it follows logically that a system of instrumentation or automatic control can provide maximum benefits to a mill operator only if it is designed specifically to meet mill requirements and process conditions. The ideal system, then, is one which is evolved as the result of cooperative planning which embodies the "know how" of mill personnel from the standpoint of process conditions, and that of an instrument engineer from the standpoint of instrumentation and control.

INDUSTRIAL DEVELOPMENT

Paper Trade Journal, in this section, makes space available for discussion of technical and operating problems. Space is also available for the presentation of independent studies and research on technical and engineering subjects. Feature stories of paper mills, converting plants and inter-related industries will be included. An invitation is cordially extended to all who are qualified to discuss these subjects. Original manuscripts submitted exclusively to Paper Trade Journal and found suitable for use in this section will be paid for immediately upon acceptance. Submit manuscripts to E. P. McGinn, Industrial Editor.

Modernizing the Beater Room

By EDWARD M. ROOT

Sales Manager, Dilts Machine Works, Div. Black-Clawson Co., Fulton, N. Y.

"Agriculture and industry, with all their technology, make a two-legged stool without distribution." So spoke Arthur Motley, vice-chairman of the Committee of Economic Development and publisher of *Parade*. "Until someone sells something," he went on, "nothing happens. Needs are nothing. Wants are what count. Wants are vital. Salesmen are want-creators. There is in human wanting the terrific power to make obsolete something practically new, because the want for something better has been supplied."

The basis of our industrial economy and one of the chief reasons for its continuing success lies in constantly trying to make newer or better or newer *and* better products at lower cost.

However, in recent years our approach to some of these problems has undergone a change. Up until a few years ago we would call at a mill, in response to a request or otherwise, and, after due consideration of a particular problem, make recommendations to solve that problem. With the sale of a replacement we considered the job finished until something else wore out. And so it went.

Many factors have combined to change this method of selling. Nowadays, when we go into a mill, we don't look simply at one or two worn out pieces of equipment. We try to look at the customer's overall problem just as he has to do from day to day. Because he is forever trying to do a better job at lower cost, he is forever alive to the possibility of new developments and new practices in his particular field.

This means looking at each individual problem, evaluating and solving it in terms of its effect on the whole. It means operating today at the same time planning for the future so that what is done today will fit into what is to be done tomorrow. Because new methods and new practices are being worked out and adopted constantly, what is new today may be obsolete tomorrow. We live in the present but, if we are to survive, we must plan for the future. Consequently, every time we step into a beater room we try to see that beater room as it is today and at the same time visualize how it will look at some future date so that when that date arrives, it will still be a profitable portion of the mill.

As builders of stock preparation equipment, we manufacture not just one or two pieces of equipment here and there in a mill, but everything a paper mill needs to start with the raw material and end up with the finished product. We even build equipment to convert the finished product into something else. We are, therefore, equipped to view a picture in its entirety and make recommendations accordingly. In addition, years ago we felt the pressure of technological influence and we installed laboratory facilities to enable us to experiment in our own pilot plant and develop new equipment to improve on old equipment and the methods it employed. We brought into our organization men trained especially in the pulp and paper field because they were better equipped to handle the problems involved. In these same laboratory facilities we study customer's problems on a pilot plant scale, using pilot plant equipment which may differ radically from what the customer has been using in his mill. As a result, we frequently make recommendations involving several different pieces of equipment tied together into system, all of which equipment we build ourselves. The papermaker's problems are our problems and rightly so.

Modernizing a beater room involves a great many factors. Not the least of these is a study of the stock prepaartion methods employed or to be employed. Stock preparation in our opinion starts not in the beater room but in the pulp mill or wherever else in the mill the original raw material from which the finished product is to be manufactured is introduced. In boxboard mills for example, where waste papers and pulp are purchased from outside sources, the stock preparation begins with the equipment designed for initial pulping and slushing of these raw materials. The same is true in all paper mills which do not have an integrated pulp mill in connection therewith. In fact, many paper mills go beyond this and purchase pulp which already has certain special characteristics, and thus begin their stock preparation in the supplier's pulp mill. In those mills which do incorporate an integrated pulp mill on the premises, stock preparation begins at the digesters which cook the wood which will later be made into pulp and readied for the paper machine. We believe this concept of stock preparation is important because obviously the part of the mill which prepares the stock and do so only within the limitations of the equipment it has and the pulp or other type of raw material furnished to that department.

Any factor to be considered in connection with modernization is that of trends in the industry and trends may be brought about by many different things. Trends are sometimes brought about by consumers of the manufactured product through requiring a product which will have characteristics not hitherto existing. As an example of this, let us consider wet strength papers wherein the user of the paper required a product having particular wet strength qualities and he, therefore, asked the manufacturer of the paper to produce such a sheet. The manufactlurer in turn went to his technicians and to the allied manufacturers of chemicals asking them to produce the necessary chemicals which, when added to his furnish, would produce the desired results. Up to this point the equipment manufacturer hadn't come into the picture in a primary sense. However, he came very much to the foreground when the manufacturer of wet strength papers came to deal with his broke and when the manufacturer of other types of papers had to cope with the inclusion of wet strength waste in raw material. This is be-

Excerpted from a paper read at the Fall meeting of the New York-Canadian Division of the American Pulp and Paper Mill Superintendents Ass'n., Inc., at Whiteface, N. Y., September 23-25, 1948.

cause equipment existing up to that time was not designed to handle wet strength papers which require special techniques. Hence, the equipment maker must so design his equipment as to be able to handle these materials or develop new equipment if necessary.

Again, on the other hand, the equipment maker establishes trends by analyzing basic weaknesses in existing equipment and developing new equipment which will do the job more efficiently and at lower costs. An example of this is the paper mill beater which for many years was the best known piece of equipment for pulping, refining, and blending papermaking stuff before going to the paper machine. In the beater we had a machine called upon to do three very important operations which were not compatible with each other with the result that each operation had to suffer as a result of the machine being called upon to perform the other two, the total result being that none of the three operations was performed in the most desirable manner. Stock preparation equipment manufacturers, therefore, developed machines designed specifically to perform an individual job and in our case our efforts took the form of the Hydrapulper for pulping and slushing the raw material, the Hydrafiner for brushing and hydrating the pulped stock, and improved methods of agitation for blending purposes. The papermaking process thus was broken down into a sequence of steps which can be listed as: (1) Pulping, as in the Hydrapulper; (2) Refining, as in Hydrafiners; 3) Blending, as in blending chests; and (4) Cutting, as in jordans to control fiber length, with individual pieces of equipment designed to perform specific duties.

Allied with these can be included equipment for pumping and for stock agitation because different papermaking materials require individual handling of their peculiar characteristics. Stock pumps are now tailor-made to the application, and agitation equipment is likewise designed, engineered, manufactured, and installed for specific purposes.

There are other trends as well which help form the pattern of our thinking when modernizing a beater room. They may be caused by the consumer demanding new products not formerly available, by the papermaker developing new products with new characteristics to increase his sales, by the equipment maker trying to make a bit better "mousetrap," through necessity, or otherwise.

Stock preparation methods, industry trends—these factors and many others all contribute to the general problem involved in modernizing the beater room. As far as we are concerned in the machinery field, the sum total of these factors takes the form of such individual pieces of equipment as Hydrapulpers, Hydrafiners, cycling and blending tanks, jordans, improved methods of agitation, equipment for semi-chemical pulping, special types of stock pumps and combinations of stock pumps and agitators such as the Agi-flo pump, improved equipment designed for removing objectionable foreign material from paper stock such as continuously cleaning settling chambers, centrifugal machines like the Classifiner and the Selectifier and, for very fine work at the paper machine, the Centrap. These are but a few of the special purpose items of machinery developed over the years either because the paper maker required them or because we recognized a need for improvement over existing equipment. Tied in with all this endeavor have been the laboratory and pilot plant facilities mentioned previously so that manufacture and recommendation of equipment could be based on research findings proven in the field. Today special purpose equipment and control seem to be the watchwords. The overall job has been broken down into a great many specific jobs, each of which must be controlled in itself, so that overall control may be more readily effected. How, then, does all this affect us when we go into a mill to make recommendations to modernize a beater room? We first learn all we can about the individual operation as well as what goes before it and what comes after it. What goes before dictates what we have to start with and what comes after dictates the direction in which we must proceed. Hence, we make a complete survey of the entire mill. We study the present methods and the equipment being used. We examine the standards to which the product is made. We analyze the power setup. We study existing control measures and stock characteristics such as consistencies, strength development available and required. We study the raw materials, if necessary, to determine their characteristics in the light of what is required from them. We investigate the property and the buildings, making sketches, etc., to determine how best new equipment may be installed with the least interruption to present operation and with future requirements in mind. We do all this and frequently more. All this is tabulated in the form of a report, much as a consulting engineer might do. After a careful study of all factors, recommendations are made, along with layout drawings, flow diagrams, power estimates, etc., all of which is incorporated in the report. When necessary, a sequential arrangement of steps is provided for so that each step may be taken in order over perhaps a long period of time. In this manner a program is worked out which might require several years to develop in so far as the procurement of the individual pieces of equipment is concerned. The complete modernization program, therefore, is outlined in advance. Its cost can be spread out over a period of time. Yet, as the program develops, and as each new piece of equipment is bought and installed, it takes its place, as outlined in the basic report and plan, so that when the program reaches fruition, it will be completely integrated, each individual step taking its proper place in the whole series of steps. First things are taken first so that the immediate need is provided for at the outset, if possible. But, through having made a thorough study of the complete picture and the future desires, the danger of making a move now which later will not fit in with future plans is minimized or eliminated altogether.

We call this "technical selling" for want of a better term. One of the reasons for its general acceptance thus far is the fact that we all like to share our problems with someone else and have that someone else carry the burden. To the customer it means that a plan exists, the fulfillment of which will work to his advantage. To us it means that our products are kept before the customer's eyes because we helped him formulate the plan. Admittedly, this means in dollars and cents that we sell more iron and steel. But more than this, much more than this, it means that we sell service, and we have a consuming feeling that our success, now and in the future, depends much more on service than it does on iron and steel. If we see to it that our customers get service, the iron and steel will take care of itself.

Ground Water's Role in Power Production

By M. W. KYLER
Manager, Wisconsin Valley Improvement Co.

For many years engineers have harnessed one of Nature's visible resources—surface water. Reservoirs have been constructed to be used as municipal water supplies, navigation, regulating pools, and water supply for power production. Elaborate calculations and curves have been designed to aid in the planned economical use of stored waters.

Another great source of water, which in quantity many times dwarfs surface supplies created by man, is now under more intense study than ever before. It is the vast hidden reservoir of ground water. In some areas of the country a most complete system of measurements has been devised to define the extent and quantity of these subsurface reservoirs. Two outstanding cases of groundwater storage measurement are brought to mind. One, in the vicinity of Los Angeles, is composed of a series of aquifers isolated by lava dikes. The aquifers are pumped intensively and recharged from surface runoff. Precise stage-capacity curves have been developed to aid in the operations of withdrawal from these storages.

The second instance is the work done on the Susquehanna River drainage area. There the relationship between water table elevation and base stream flow has been defined to the extent that accurate forecasts of stream flow can be made for periods of weeks following a determination of the water table index. In the Susquehanna valley the ground water index is used to forecast minimum flows expected in the succeeding four to eight weeks. By knowing the minimum flows to be expected, scheduling of steam plant maintenance can be definite because it will be known whether or not certain units will be needed. Also, coal requirements can be anticipated by knowing how much steam generating capacity will be required to meet demands.

In the Wisconsin River drainage area 17 wells have been installed to measure ground water fluctuations. Some of these measurements were started in 1942 and the balance in 1944. Care was taken to avoid potholes or high ridges so that the well water level would reflect the general ground water condition. Wells located in the northern lake area and on the East side of the Wisconsin River behave very much alike, but wells located in the tight Colby silt loam on the West side of the River behave as if they were located in a perched water table. Their minimum is about the same regardless of the severity of the drought conditions and they quickly reflect any water received. This indicates they tap a low capacity storage. The other wells do not fluctuate so widely and reflect varying degrees of precipitation efficiency or abundance. In computing the average ground water level, the better wells have been used which seem to reflect the large general ground water storage and not the low capacity storage in the tight soils. The ground water condition is plotted as an average departure from the initial level at the start of the program.

On the graph good correlation is noted between stream flow, power generation, precipitation surpluses are deficiencies, and the ground water level. As the ground water has fallen, subsequent power generation and stream flow have noticeably dropped. Of course some of the drop in flow and generation is due directly to less surface runoff. In some areas the terrain is of such a nature that the ground water contribution to flow is only a small percentage of the total runoff. This would be true in a tight soil of a rugged terrain. In the more loose soils of a flatter terrain the ground water flow affords a larger percentage of the total.

It appears that a high ground water does indicate good stream flow and therefore good hydro-generation. Direct forecasting of stream flow or hydro-generation from ground water level only, must be always modified by the realization that any variation in precipitation will greatly affect the forecast because of the resultant surface runoff. As an example, the ground water level in June 1945 would indicate that stream flow following would be less than the same period in 1943. Such a deficiency actualy resulted during July and August, but surplus August rains completely changed the picture and resulted in much better fall flows than would have occurred with normal rain. Excessive November precipitation in 1945 further increased the flows during the following winter.

A normal amount of rain was well spread over 1943. The ground water hydrograph shows that it gained very well from good spring rains. The power production resulting from good distribution or rainfall after July can be compared to the good position in June coupled with poor summer and fall rains is reflected in the low stream flow and electrical generation for that year.

In July of 1946 the ground water table was at the same position a sthe summer of 1945. It is strikingly indicated on the graph how copious precipitation in September, October and November prevented it from receding rapidly. Poor winter and spring precipitation, however, prevented its proper recharge in 1947.

It can be said safely, that with normal or less than normal rains, this next year, reliance on steam to supplant the loss in hydro-capacity will be great. If no more than noraml rains occur, coal consumption will be equal to or greater than 1947.

Intense careful comparison of stream flow, surface runoff, evaporation, ice formation and ground water fluctuation must be made before precise quantitative forecasting of base flows can be hoped for. As yet only general comparisons can be made as cited above. However, they are of definite value. The record does indicate definitely that 1948 and 1949 will be worse in hydro-electric shortage than in 1947 if abundant continued rain is not received. This in turn points the way to more dependence on steam and the attendant greater use of coal to make up the difference.

A paper read at the meeting of the Northwestern Division of the American Pulp and Paper Mill Superintendents Ass'n., Inc., at Merrill, Wis., September 9, 1948.

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Operating Experiences With Cottrell Precipitators on Sulphate Recovery Furnace Gases*

By L. M. Roberts[1], C. E. Beaver[1], and W. H. Blessing[1]

Abstract

Some operating data and plant experience with Cottrell precipitators for the recovery of sodium compounds from recovery furnace gases are presented. The information is based on actual plant tests and information obtained direct from the various companies who have installed and operated precipitators in sulphate mills.

The commercial application of electrical precipitation received its greatest impetus from the work of Dr. Frederick G. Cottrell around 1905. It is interesting to note that Dr. Cottrell's work originated with a chemical problem and that up through the years a large part of the work has been in connection with chemical applications, in which category the sulphate and soda mill propositions could also be included.

In the operation of an electrical precipitator, a high voltage unidirectional current flow is set up between two spaced sets of electrodes through which the gas containing the suspended matter is passed. One group of these electrodes are usually filimentary such as wires, rods, etc. and are known as the discharge electrodes. The other set, commonly known as the collecting electrodes, have large or extended surfaces on which most of the suspended matter collects; the relationship of surfaces being in the ratio of 16 to 1. The high voltage discharge between these two groups of electrode ionizes the gas and liberates a large supply of gas ions. These ions attach themselves to the suspended particles present in the gas between the electrodes thereby charging the particles after which they are attracted to the electrode of opposite electrical sign. In order to maintain the highest possible voltage, the discharge electrodes are usually of negative polarity and the collecting electrode of positive polarity.

A precipitator installation might be segregated into two parts. First, the precipitator itself in which are grouped the electrodes and in which the gas is treated. Second, the electrical equipment for generating and controlling the high voltage current required.

Precipitators for industrial gas cleaning problems are of various designs dependent upon the problem, layout, technical considerations, etc. We do not intend to discuss the various type of precipitator for different applications but will rather concentrate on the type which we most commonly use in sulphate pulp mills for cleaning the recovery furnace gases.

Precipitators for Sulphate Mills

The most commonly used design of precipitator in sulphate mills is made up of a tile shell which tile are filled with cement and reinforcing rods. This shell can be supported on either structural steel or concrete walls. The collecting electrodes are of the rod curtain type, the collecting electrodes plates being constructed of a series of parallel rods 3/16-inch dia. spaced 1½ inches apart, supported in a frame thereby forming plates 8 feet 6 inches wide by 17 feet 6 inches high. These plates are spaced so as to form ducts or gas passages 10 inches wide through which the gas passes. In the center of the ducts are suspended the discharge electrodes constructed of 0.109-inch iron wire and spaced 7 inches apart and held taut by a weight and steadying frame at the bottom. These discharge electrodes are supported from insulated high tension supporting members at the top. Both the collecting and discharge electrode systems are equipped with air operated vibrators for removing the collected dust from the electrodes. The hoppers at the bottom are usually constructed of steel which is heat insulated and in many cases, a steam heating coil is utilized to keep the hopper warm to prevent moisture condensation. The insulator compartments are also constructed of steel which is heat insulated and ventilating air is blown into these compartments to prevent, or at least retard, the deposition of dust in such compartments. Steam coils are also provided to prevent moisture condensation. The whole construction of this precipitator is such as to guard against corrosion which, as you all know, is a very important problem in any sulphate mill.

The gas enters through openings at the top placed symmetrically on the center line, flows downward through passages on the inside of the precipitator and then upward through the ducts between the collecting

* Presented at the meeting of the Alkaline Pulping Committee of the Technical Association of the Pulp and Paper Industry held in Asheville, N. C., Oct. 11, 1947.

[1] Research Corp., Bound Brook, N. J.

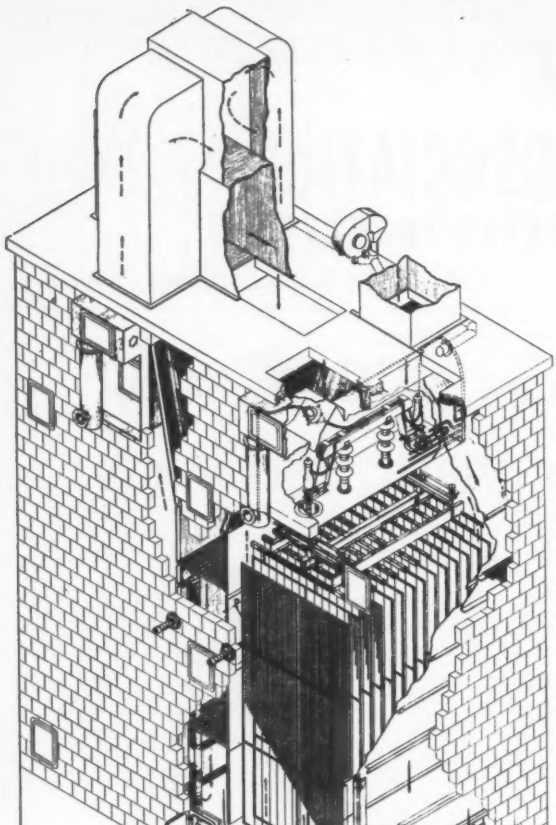

FIG. 1

electrode plates, discharging at the top of the precipitator. The arrangement of the inlet and outlet gas connections and flues is based upon the necessity of obtaining even gas distribution across the total precipitator which is absolutely essential to good performance.

These precipitators are built in multiple units arranged in parallel and are usually rated on the basis of approximately 2,000 c.f.m. of gas per precipitator duct for a 90% removal. This is the efficiency guaranteed in most cases but if desirable, this can be increased by reducing the volume of gas handled per duct. The pressure drop between inlet and outlet is less than 1 inch of water.

Problems Involved

The application of Cottrell Electrical Precipitators to recovery furnace gas cleaning involves the handling of the combustion gases after they have been cooled in the spray towers or disk evaporators.

In general, this problem resolves itself into cleaning a gas containing certain acidic constituents which, if condensed by cooling, are extremely corrosive to steel. It involves removing solids which, since they originate in a high temperature volatilization process, are extremely fine as regards particle size and which could properly be classified as a fume. The dust as collected is extremely light weighing about 9 pounds per cubic foot when freshly precipitated and 30 pounds when packed. The precipitated dust is readily soluble in the condensate, which, when saturated, forms hard crystalline masses which are removed only with great difficulty from any metallic surface.

In order to effectively handle this problem, it was concluded that these particles could be precipitated in a satisfactory manner if conditions were controlled so that the gases were treated at a temperature sufficiently above the dew point temperature so that condensation did not occur. Under these conditions, the material would be precipitated in the dry easily handled state. Inasmuch as this method involved handling the gas in a relatively dry state, it would not be necessary to take recourse to alloy materials for corrosion resistance.

The first commercial installation involving this type and construction of precipitator was initially operated in June 1940. Since this date a total of 28 installations, each comprising from one to five precipitators, have been built, or are under construction or contract. These installations have a total contract volume rating of about 6,000,000 cubic feet per minute which is roughly equivalent to a production of about 13,000 tons of pulp per day.

The commercial installations can be divided into three categories, namely:

1. Installations operating for some considerable time.
2. Installations placed in operation during late 1946 and 1947.
3. Installations now being built and designed.

For the purpose of this paper, interest is primarily in the first and second categories and since the operating experience is largely confined to the first, this group has been purposely emphasized.

Initial Operating Experiences

Sixteen installations, comprising 38 precipitators, are now in regular operation and can be included in groups 1 and 2 above.

All installations were initially operated by Research

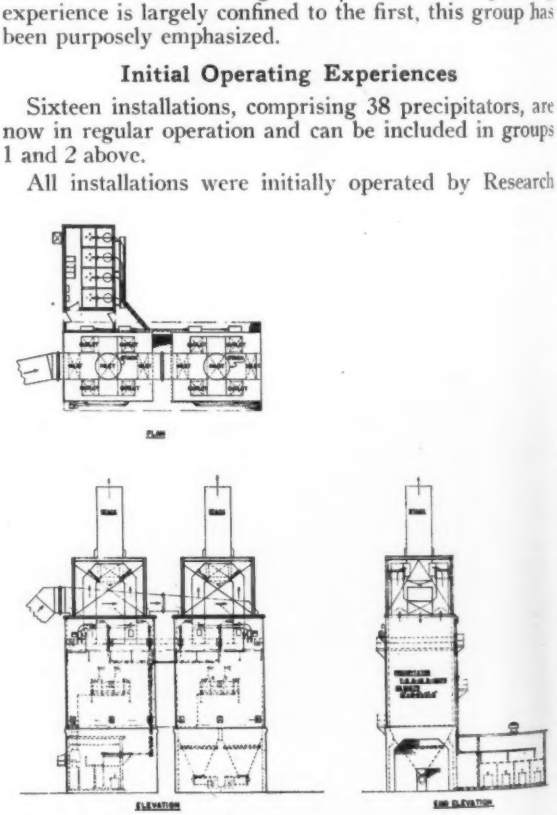

FIG. 2

Corporation engineers for periods of 10 to 30 days and official tests were conducted on twelve of these installations.

The builder's tests results indicated that the designed efficiencies were met. Figure 5 shows the average results from twelve of these plants plotted with the theoretical design curve.

During the builder's tests, data were secured on the power consumption. These showed a range of 2.8 to 6.25 kw. hr. per ton of pulp with an average of 3.88. This value includes the power used for energization of the precipitator as well as the other electrical appurtenances. The concentration of dust entering the precipitator ranged from 1.7 to 6.8 grains per cubic foot of gas at standard conditions while that in the outlet gas ranged from 0.06 to 0.35 grains.

In general, the studies made during the operating periods indicated:

1. That the precipitator removes the suspended matter from the gases in a satisfactory manner, fulfilling the anticipated performance.
2. The condition of the exit gases is such that any possibility of being within the nuisance category is very remote.
3. The suspended matter is recovered in such a shape that ready absorption into the recovery system is obtained.
4. At the operating temperatures, the corrosion of the interior steel parts is reduced to a minimum.
5. The dust can be dislodged from the collecting and discharge electrodes with either mechanically driven rappers or pneumatic vibrators.

Plant Experience

In order that a factual summary of the operating experiences of plant operators could be prepared, eleven questionnaires were sent to the plants at which the precipitators were in service and the initial tests completed. Nine replies were received.

These questionnaires were based primarily on questions which would interest plant operators and the technical questions of interest to those concerned with precipitators were made secondary. Because of previous poor experiences with long questionaires, they were made very short so that there would not be a demand on the time of busy plant operators.

In general, the questions were pointed to the following factors which are believed paramount from an operator's point of view. The questions covered information on pulp tonnage, operating temperatures, amount of precipitate, analyses of dust, operating outages and availability of precipitator, maintenance and operating information.

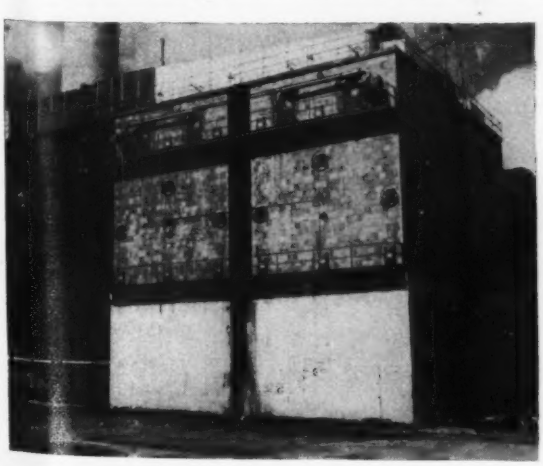

FIG. 3

TABLE I.—PRECIPITATOR GAS TEMPERATURES

Plant No.	Precipitator Inlet, °F.	Precipitator Outlet, °F.
1	395	320
2	290	285
3	300	295
4	320	300
5	275	250
6	284	250
7	260	250

GAS TEMPERATURES

The information on the temperature of the gas entering and leaving the precipitators is shown on Table I. With the exception of plant No. 1, the range of temperatures at the inlet and after spray cooler or disk evaporators is from 260 to 320° F. The temperature at plant No. 1 has been about 395° F. as no spray coolers or disk evaporators are utilized. It is interesting to note that the efficiency at this plant is lower than the rest (see Fig. 5). This lowering of the efficiency with temperatures in excess of 325° F. corroborates the pilot plant experience for it was observed in those tests that the material becomes exceedingly light and fluffy at the higher temperatures. To operate at the higher temperatures, lower velocities of treatment are required.

The outlet temperatures range from 250 to 320° F. resulting in a temperature drop of from 10 to 75° F. on these installations. In the lower inlet temperature group the range is 5 to 25° F.

From a precipitator operating standpoint, it is interesting to note that in all these installations there is considerable spread between the outlet temperature and the dew point of the gases. Depending on the type of cooler used, the dew point temperature of the gases will run from 135 to 170° F. With a minimum spread of 80° F. between the outlet and the dew point temperature corrosive conditions are minimized. The greatest danger under these conditions is, of course, local cold spots which cause regional condensation.

ANALYSES OF PRECIPITATED MATERIAL

The analyses of the principal chemical compounds present in the material precipitated and removed from the precipitator hoppers is shown on Table II. It will be noted that there is considerable variation in the material collected. This variation in composition reflects to a large extent the operating variables occurring from plant to plant.

Fortunately, from a precipitation standpoint, the change in chemical composition within the ranges shown has not affected the rate of precipitation adversely. This is borne out by the efficiency results shown on Fig. 5. On one installation, however, the results of which have not been reported, it was found that small amounts of carbon in the dust reduced the efficiency at the normal time of treatment. Inasmuch as the presence of the carbon was traced to poor operation of the oil burners used, and, as such, represented an economic loss, the operators corrected the faulty combustion which reduced the carbon content of the suspended matter. When this occurred the efficiency increased to that normally expected.

Of interest to operators is the presence of chlorides in some of the precipitates. Their presence, of course, complicates the corrosion problem for not only must the equipment be protected from the corrosive activities of sulphur compounds but also from that caused by chlorine combinations.

TABLE II.—CHEMICAL COMPOSITION OF PRECIPITATE

Plant No.	Moisture	Na_2SO_4	Na_2CO_3	NaCl	Sulphides as Na_2S	Na_2SO_3
1	0.3	71.67	23.41	1.0	....	....
2	....	85.0	10	....	....	....
3	....	75.5	22.8	1.97	....	1.28
4	....	86.4	8.8	2.3	....	....
5	....	14.1	73.14	5.62	5.44	....
7	....	85-90	5-10	....	....	....
8	1.2	68	26.0	....	....	....
9	0.56	87.9	2.6	0.562	3.3	....

Amount of Precipitate

In the questionnaire, information on the amount of dust precipitated was requested. This is a measure of the direct return to the plant from the precipitator. The other function of the application of precipitators to this problem, which consists of abating a nuisance, is, of course, an intangible item not as easily evaluated as the actual dust return.

The figures reported are based on average monthly returns and represent, therefore, the precipitator operation through all types of operation. In general, the returns show recoveries of 88 to 145 pounds per ton of pulp, the average being 118 pounds. Based on the average rate and a precipitator availability of 95%, the yearly return from a 250-ton mill operating 350 days per year would be 4900 tons.

While the above represents the average return, it should be pointed out that there is at some plants considerable variation from day to day. This variation is best shown by tests made on the inlet and outlet gases. In one installation, tests were made over a period of a week. With the furnace operating at practically a constant rate, the computed losses in successive tests were 46,500, 61,000, 65,500, 57,800, and 33,400 pounds per day. It is interesting to note in this connection that the furnace operation was, according to the furnace operators, normal during all tests.

The successful handling of this material from the precipitator presupposes that it can be assimilated into the recovery system. In all cases, the dust is now dissolved in black liquor and returned to the black liquor flow in the recovery plant. Apparently no major troubles are encountered with this method for no complaints were registered in the questionnaire replies.

Operating Availability Of Precipitator

One of the most important requirements of a precipitation installation is its availability for operation, for no matter how well it performs if it is not available for operation a large percentage of the time, it is not a successful commercial installation. One of the questions asked the operators was what percentage of the time was the precipitator available for operation?

The answers to this question were as follows:

Plant 1	95%
Plant 2	94%
Plant 3	96.1%
Plant 4	97.4%
Plant 5	98.0%
Plant 6	95%
Plant 7	More than 95%
Plant 8	98%

Of these results, plants 7 and 8 were placed in operation this year and, therefore, there has not been sufficient operating time to secure reliable figures on this point. Plants one to six, however, have been in operation from one to seven years and their experience should, therefore, be indicative of what to expect.

The records indicate availability ranging from 94 to 98%. This record was achieved during wartime when production was paramount. Also some of the installations were overloaded as much as 65% so that minor interior troubles which could have been taken care of normally through inspection doors developed into major precipitation shutdowns. In view of the severe service, from a corrosion standpoint, which the equipment has to withstand, this record speaks for itself.

It is interesting to note that a large part of the reported outages could be traced to mechanical difficulties such as trouble with mechanical electrode rapping systems. In this particular case, the original type of rapping system has been superseded by air vibrator type of electrode cleaner which can be serviced from the outside without an outage. Consequently the availability record on the later installations should be better in this regard.

In two instances the cable supplied was not satisfactory due to a forced change in supply during the emergency. Later this condition was corrected by the procurement of a better cable.

In a few cases corrosion was experienced after some years of operation with the corrosion of the hoppers and insulator compartments which also necessitated outage for replacement. As previously pointed out, it is very desirable to keep the hoppers at higher temperature and steam coils have been utilized for this purpose.

Dust build ups in the hoppers causing electrical shorts have been the cause of outages at some plants. On some of the more recent installations, the use of pneumatic vibrators automatically controlled has reduced these outages.

Cost Of Maintenance Labor

The replies to this question were rather scarce since only two plants reported. It is assumed that the reason for the lack of reply lies in the fact that few companies isolate this item in their accounts. At one plant, the maintenance labor costs were given at $0.064 per ton of pulp and in the other $0.01.

Cost Of Operating Labor

Relatively little information was received on this question for only three plants reported. In the replies, the labor costs ranged from 10.4 to 11 cents per ton of pulp.

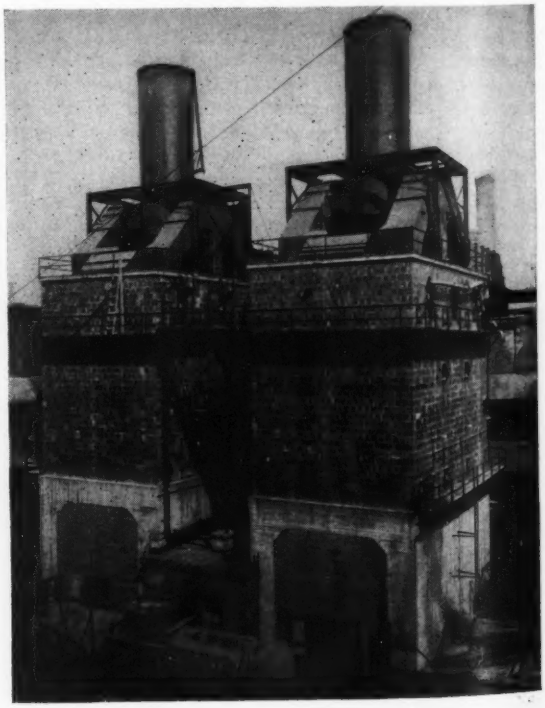

Fig. 4

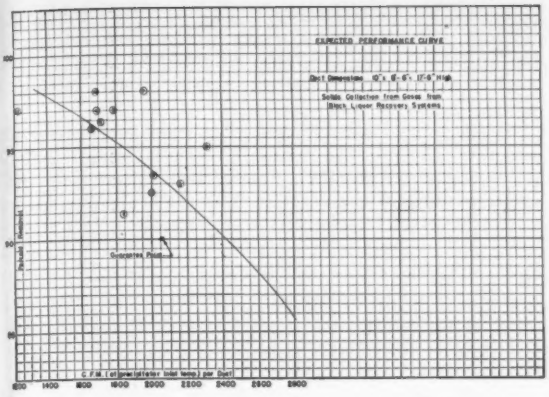
EXPECTED PERFORMANCE CURVE
Dust Collection from Gases from Black Liquor Recovery Systems
Suspended Particles
C.F.M. (at precipitator inlet temp.) per Duct

FIG. 5

The question of operating labor has always been a difficult one to establish for some plants use no extra labor since the precipitator operation is handled by the recovery operator. In other plants, particularly where multiple units are used, a regularly assigned operator is used to operate the precipitator.

Based on this information received, it appears, therefore, that the cost of operating and maintenance labor and electric power consumption varies from a minimum of 13 to a maximum of 19 cents per ton of pulp produced. Since these figures were reported from average sized plant, they probably represent approximations for such sized plants but in all probability they would be considerably less for the larger installation.

TABLE III.—AMOUNT OF PRECIPITATE

Plant No.	Production, tons pulp per day	Precipitate Collected, pounds per ton pulp	Makeup Salt Cake, pounds per ton of pulp: Prior to Installation of Precipitator	Makeup Salt Cake, pounds per ton of pulp: After Precipitator Was Placed In Operation
1	225	88	246	158
2	250–300	100		
3	630	145	307	163
4	300	117		
5	288	135	316	193
6	230	135	300	180
7	450	130	300	170
8	980–1120	110–120	225	132
9	225	94	350	256

University Training On the Undergraduate Level*

By Edwin C. Jahn[1]

Abstract

The training of men in a four year college program for technical positions in the pulp and paper industry requires a specialized curriculum and special facilities for instruction. The processes of pulp and paper manufacture and the operation of the industry combine the fundamentals of engineering, chemistry, wood technology, forestry economics, and even art. The industrial operations are complex and involve an extraordinary number of variables.

A college graduate trained for the pulp and paper industry must be a combination of chemist, engineer, and wood technologist. He must also have a sufficient grasp of business, economics, and forestry so that he has an appreciation of the industry as a whole from the forest to the sales department.

Undergraduate training for the pulp and paper industry can be mothered by chemical engineering departments (Maine and Alabama) or by forestry colleges (Syracuse). Actually the curriculum should have two supporting pillars, (1) chemistry and engineering, and (2) wood technology and forestry. The many problems of the industry such as those related to wood structure, fiber technology, cellulose and lignin chemistry, and pulp and paper technology make it desirable to have specialized curricula giving a type of training beyond any one orthodox training such as in chemistry or in engineering or in forestry.

Because of the scope of fundamentals involved, a four year training program must necessarily be concentrated. The amount of work involved is more than students get in most other curricula. The student must complete a training equivalent to a chemist's training and at the same time take work in wood technology, engineering and pulp and paper technology. Men who have completed this training find that the industry has a place for them and appreciates their specialized skills.

University training on the undergraduate level for technical positions in the pulp and paper industry must be built on academic standards equal to those in other professional fields, such as chemistry, forestry, or chemical engineering. A college graduate trained for technical work in the pulp and paper industry must be a combination of chemist, engineer, and wood technologist. He must also have a sufficient grasp of plant management, economics, and forestry so that he has an appreciation of the industry and its problems as a whole from the forest to the sales department.

Those working in the pulp and paper field are fully aware of the complexity of the manufacturing operations and the extraordinary number of variables that are involved. The processes of pulp and papermaking combine the fundamentals of chemistry, engineering, wood technology, fiber technology, and physics. It has often been said that papermaking is an art. Originally it was largely an art, and the industry was notoriously slow in the employment of technical men and in the development of research. During recent years, however, the necessity of having the operation of the industry under technical guidance has been in part a phase of the natural rapid growth of the industry, which is among the ten largest in the United States, based on the value of the products and on the wages paid. There are no statistics showing the increase in technical men employed by the industry. However, the trend may be judged somewhat by the increase in membership in the Technical Association of the Pulp and Paper Industry. In 1926 there were 711 members and at the end of 1947 the figure had grown to 3101 individual members.

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Maine and Alabama

Undergraduate training for the pulp and paper industry can be approached either through chemical engineering, as at Maine and Alabama, or through forestry as at Syracuse. Actually the curriculum should be supported by two pillars, one the chemistry—engineering pillar and the other the forestry—fiber-wood pillar.

Specialized courses in pulp and paper technology are taught by the chemical engineering or chemistry departments of several institutions. These vary from one or two courses offered as electives in the regular chemical engineering or chemistry curriculum to a group of courses giving the undergraduate student a pulp and paper major option. The Universities of Maine and Alabama offer this latter type of training. The pulp and paper option of the chemistry curriculum at Alabama involves six pulp and paper technology courses and one cellulose chemistry course amounting to about 10% of the required curriculum. At Maine eight pulp and paper courses and one wood structure course are required in the senior year of the pulp and paper option of the chemical engineering curriculum. These courses account for about 14% of the required curriculum and follow three years of chemical engineering. Additional engineering courses are also taken in the fourth year. The University of Maine was the first institution to offer undergraduate training in pulp and paper technology, starting in 1913. Recently it has also increased its emphasis on graduate instruction and is encouraging graduate study in this field. The program at Maine is a fine example of the approach to pulp and paper technology through chemical engineering.

Syracuse

The most extensive undergraduate program in pulp and paper technology with regard to deviation from the usual chemical, chemical engineering, or forestry curricula, to the scope of specialized courses offered, and to the facilities available, is offered by the New York State College of Forestry at Syracuse University. The college also offers graduate training in pulp and paper technology for the M.S. degree and in cellulose and wood chemistry for both the M.S. and Ph.D degrees.

Instruction in papermaking was first given at The New York State College of Forestry in 1918. The demand for this training increased so that a Department of Pulp and Paper Manufacture was organized. The present staff of the department numbers twenty-two of which eight are teaching members.

The location of the Department of Pulp and Paper Manufacture as a part of the College of Forestry makes it possible for the student to obtain an appreciation of the problems of growing and managing the forest raw materials and a fundamental knowledge of wood anatomy, fiber structure, and the chemistry of cellulose and wood. About 15% of the curriculum is devoted to these subjects.

The integration of the curriculum of the College of Forestry and of Syracuse University enables the student to take basic courses in the various divisions of the University. Here the student takes courses in mathematics, physics, and mechanical drawing as well as basic courses in electrical and mechanical engineering. Altogether these courses account for about 25% of the total work of the curriculum.

Another fourth of the curriculum is devoted to courses in fundamental chemistry, including general, qualitative analytical, quantitative analytical, organic, and physical chemistry. Colloid chemistry or bacteriology is also required. Furthermore, much of the work in the pulp and paper courses consists of technological chemistry applied to the specific processes of the pulp and paper industry. Fifteen per cent of the courses consist of English, business, and economics.

The specialized pulp and paper courses account for the remaining 20% of the program. These courses include pulp and paper technology, paper testing, coloring, mill management, and machinery. The latter course covers the principles of operation, construction, and design of process equipment in the pulp and paper industry as well as chemical engineering unit processes used in pulping and papermaking. During the Senior year each student must carry out an original research problem related to pulp and paper technology or cellulose chemistry.

The laboratory work in pulp and paper technology and the research problem are organized into a "block laboratory" system in the senior year. It is not possible to carry out laboratory experiments in pulping or in most of the other pulp and paper making operations in a conventional class laboratory period of 3 hours at intervals of time. The various laboratory courses, such as pulping, bleaching, coloring, paper testing, and papermaking, are therefore taken one at a time, the class meeting every day from 10 a.m. to 5 p.m. for the first four days of each week for a period of several weeks. During this period the students are organized into working groups of three to four, each group working closely under the supervision of an instructor. The data collected during the period of each course by all the students are assembled. Each student then writes a comprehensive, individual report analyzing the data and interpreting the variables. Two or more of these "block" courses are going on simultaneously, each part of the class shifting to another course after about six weeks.

Practical mill experience is also an important part of an undergraduate's training. At Syracuse a minimum of 10 weeks experience is required during the summer months. The industry cooperates very well in providing the opportunities to the students for obtaining this experience.

University training for technical positions in the pulp and paper industry requires not only a specialized curriculum, but special facilities for instruction. The author will not describe the facilities at Syracuse, since they have been adequately described in the literature (1, 2). The nucleus of these facilities is a semicommercial laboratory building or pilot plant containing a complete pulp and paper mill. This unit represents a prewar investment of about $400,000. These facilities are sufficient to train 30 to 40 seniors each year. The average prewar graduating class numbered 20 to 25 men.

In conclusion, it should again be emphasized that an undergraduate program for training technical men for the pulp and paper industry must necessarily be concentrated. The amount of work involved is more than generally required of students in other curricula. The student must complete a training practically equivalent to that of a chemist and at the same time obtain a working knowledge of wood technology, basic engineering, and pulp and paper technology. Men who have completed this training have found that the industry has a place for them and appreciates their specialized skills.

Literature Cited

1. Hisey, W. O., New York State College of Forestry's Pulp and Paper Laboratory, *Paper Ind.* 20, 1061-1068 (Jan., 1939).
2. Jahn, E. C., Academic Training and Research for the Pulp and Paper Industry in the United States, *Svensk Papperstidning* 46, 413-424, (Sept., 1943), (in English).

Testing Division Meet at Mellon Institute

The first general meeting of the Testing Division of the Technical Association of the Pulp and Paper Industry was held at the Mellon Institute of Industrial Research, Pittsburgh, Pa, October 11-14, 1948.

James d'A. Clark, Chairman of the Testing Division, was general chairman and opened the session Monday morning. He introduced Mr. E. R. Weidlein, Director of the Mellon Institute, who welcomed the group and Mr. W. F. Gillespie of the Gaylord Container Corporation, President of TAPPI. The morning was devoted to discussions of statistical methods by Charles Bicking, Hercules Powder Company and J. H. Toulouse, Owens-Illinois Glass Company.

In the afternoon Mr. A. S. O'Brien, Eastman Kodak Company, took over the chairmanship of discussion on viscosity, alpha cellulose, and pH procedures. Mr. Clark led a group interested in the bursting strength test, and John F. Campbell, Flintkote Company, had a meeting of the Structural Fibrous Materials Committee. Mr. Wayne Lewis of the Forest Products Laboratory outlined several proposed test procedures for structural boards at this meeting.

Tuesday was devoted to microscopy, package materials testing, and optical properties. Thomas Fyfe of the Eastman Kodak Co. and his group reviewed the TAPPI Standard T 401 m Fiber Composition of Paper. George Sears of the Institute of Paper Chemistry was chairman of the packaging materials session.

The Optical Properties Committee, A. H. Croup, Hammermill Paper Company, chairman, discussed a proposed standard for the measurement of gloss. After covering fading instruments and the measurement of clay brightness, Richard Hunter, spoke on the color difference meter and recording gloss and brightness meters and Mr. French on the PPGIDL Colorimeter.

There was a session on pulp testing Wednesday with L. V. Forman, the Institute of Paper Chemistry as chairman. The discussion on dirt count was most interesting.

The Nonfibrous Materials Testing meeting was divided into two parts, the committee chairman, Stephen Kukolich, Lee Paper Company, presiding over the discussion on analysis of paraffins and petrolatum. George R. Sears headed the group interested in the analysis of rosin size, fillers, and beater starch.

The paraffin meeting lasted all day with H. Shindler, Daugherty Refinery, J. E. Newman, Esso Standard Oil Co., E. R. Wiles, Bareco Oil Co., G. P Mueller and G. Rumberger, Marathon Corp., J. W. Padgett, Moore & Munger, and M. W. Kane of Kalamazoo Vegetable Parchment Co.

During the three days tours were conducted through the Mellon Institute by Paul B. Davidson, Senior Fellow, Strathmore Paper Co., and others of the staff and on Thursday a group of about thirty visited the Natrium, West Virginia plant of the Columbia Division, Pittsburgh Plate Glass Co. to inspect the facilities for manufacturing chlorine and caustic soda.

In attendance at the meeting were:

George L. Adams, Paul D. Applegate, Alvin P. Anderson, Kenneth A. Arnold, Samuel I. Aronovsky.

John Bainbridge, Wilmer J. Balster, Edwin J. Barber, O. A. Battista, Seward M. Bazler, Edward W. Beauvais, Henry H. Bell, R. G. Betts, Charles A. Bicking, Richard T. Bingham, Roy C. Bloom, P. S. Bolton, L. F. Borchardt, Walter J. Brand, C. E. Brandon, Millard Brandt, G. Basil Brown, B. L. Browning, Robert D. Brunner, E. A. Burch, R. J. Burrock.

A. J. Cameron, John F. Campbell, R. A. Campbell, R. G. Capell, L. C. Cartwright, George H. Cash, A. Herbert Chamberlain, Frederic H. Cherepow, Arthur J. Christensen, John L. Clouse, Sr., Chas. J. Coleman, J. H. Compton, Jr., Harold E. Corbin, Edwin P. Cox, D. J. Crawford, A. H. Croup, George A. Cruickshank.

Howard H. Dana, Paul B. Davidson, Robert R. Davis, D. S. Dieffenderfer, Gordon P. Dillon, Joseph F. Dobson, Arthur C. Dreshfield, John K. Dyer.

H. C. Eaton, Junius D. Edwards, F. D. Elliott, Edward Wm. Engel, Arthur R. Ewing.

Clarence E. Felt, S. W. Ferris, Arthur H. Fitzgerald, Loren V. Forman, Mark E. Fretz, C. S. Funk, Thomas Fyfe.

R. W. Geiser, W. F. Gillespie, Louis C. Gischig, John Graff, L. D. Grubb, Raymond K. Guinard, J. R. Gunning, L. R. Gwaltney.

Paul L. Haggerty, Lois V. Hans, Dorothy Harper, W. F. Hathaway, Harold R. Hay, Herbert C. Heineman, Philip H. Hershey, Joe C. Higgins, Earl F. Hill, G. P. Hinds, Jr., W. W. Hodge, Harold Holmes, Fred Holt, T. A. Howells, C. E. Hrubesky, Kenneth H. Hunt, Richard S. Hunter, Howard W. Hurd.

Edward M. Jenkins, Miles A. Joanen, Wm. R. Johnson, Arthur E. Jones, Morris W. Kane, Ola Kaustinen, David P. Keefe, ames H. Kirk, Gilbert E. Kohr, R. D. Kolasinski, Myron G. Kuhlman, Stephen I. Kukolich.

Arthur H. Landrock, Kenneth B. Latimer, F. S. Lazure, R. B. LeRoy, Ivan L. Lester, George W. Lewis, Wayne C. Lewis, David Y. Liversidge, S. C. Lyons.

R. G. Macdonald, T. E. Mackey, F. H. MacLaren, A. Harold Martin, R. T. Mashburn, D. C. Mather, F. L. Matthews, Charles S. Maxwell, Frank S. McCall, Glenn W. McNight, B. C. Morris, G. P. Mueller.

Theodore R. Naffziger, E. R. Nepkie, John E. Newman, Albert S. O'Brien, James V. Otness.

John W. Padgett, J. C. Plankinton, Marshall G. Powell, Stanley W. Pierce, David A. Powers, Warren R. Price, A. F. Prysbeck.

Richard H. Ramsay, Francis G. Rawling, John C. Redd, Arthur E. Reed, Robert W. Reed, Wm. Paul Ridenour, George J. Ritter, Philip R. Rolleston, Bernard L. Rose, L. C. Roulston, Glen Rumberger.

Robert Sams, E. P. Samsel, A. C. Saunders, Francis C. Schroeder, George Sears, M. G. Selden, Lawrence L. Shailer, L. E. Simerl, Herbert A. Smith, Johnson H. Smith, Roger L. Steller, Elmer K. Stilbert, D. B. Strohm, Grant Swander, Frank Swedish, Clifford R. Swett.

L. B. Taylor, R. I. Thieme, Malcolm H. Tinker, J. H. Toulouse, John G. Turk, William R. Turner.

Peter VanWyck, William J. Verross.

H. E. Walter, A. Kenneth Werner, Edward Warner, C. G. Weber, Paul F. Wehmer, Thomas A. Weisz, James R. Wellman, Kenneth S. Whisler, Raymond H. Wiles, William R. Willets, Norral F. Wilson, Everett S. Worth, Paul H. Yoder.

Pacific TAPPI Annual Engineering Meeting

Bellingham, Wash., September 18, 1948

Pacific Section TAPPI opened its 1948-49 season with an Engineering session at Bellingham, Washington on Tuesday, September 18, 1948. This was the second engineering meeting sponsored by Pacific Section, the first having been held in March 1948 at Tacoma. At that time, because of the interest shown, it was decided that an annual engineering meeting on the Pacific Coast would prove popular. The attendance at Bellingham together with the active participation of the engineers present in the discussions has shown this policy to be sound.

Mr. V. C. Haner of the Puget Sound Pulp & Timber Co., acted as moderator of the 2:00 P. M. Technical Session and outlined the program which he had prepared on the subject of "Power Plant Engineering."

The first panel speaker was W. O. Stevens, Consulting Engineer, Seattle, Washington who presented his paper entitled "Problems and Pitfalls Encountered in Planning Power Plant nIstallations." In his paper Mr. Stevens stressed the importance of such points as a complete survey, comprehensive specifications and good drawings in planning new installations. He stated that a chief engineer familiar with the plant operation is important. Also stressed were the factors of heat balance simplicity and the selection of the right equipment to meet local conditions.

Mr. D. W. Harris of C. C. Moore & Co., Seattle, Washington was next panel speaker. His paper on "Combined Firing of Coal and Wood Refuse," explained the various types of equipment now being used for utilizing wood refuse by burning with coal. Mr. Harris stated that wood refuse from the hydraulic barkers containing 60-70% moisture had presented new problems requiring new designs and methods of firing in the boiler plant. In the discussion which followed this paper, it was brought out that future boiler plant installations in the Pacific Northwest should provide for using supplementary fuel (coal) as is already being done in Southern California in the heart of the oil district.

Mr. Lee F. Chaney of The Flox Co., Portland, Oregon, continued the program with a paper entitled "Boiler Feed Water Treatment." This paper outlined the important requisites of boiler feed water for high pressure steam plants including freedom from calcium and magnesium salts; low content of sludge, suspended matter, silica and undissolved solids; and finally low content of oxygen and carbon dioxide. Mr. Chaney then discussed the equipment and chemicals required to accomplish the desired results. He also covered the use of chemical after treatment and its relation to the prevention of corrosion and scale deposits. The use of polyamines in the preclusion of foam and the use of embrittlement inhibitors was likewise touched on.

The "Chemical Cleaning of Boilers," a paper by Chas, Carter, Puget Sound Pulp & Timber Co., was a highly interesting description of the use in this mill of inhibited hydrocloric acid for cleaning scale deposits from boilers. Mr. Carter explained in detail the procedure which had been followed including the factors of acid concentration, temperatures and time. He stated that this chemical treatment had proven very satisfactory both from the standpoint of cost and also in the time required to do the job.

The final paper on the panel was contributed by H. M. Perry, General Electric Co., Portland, Oregon, on "Extraction Turbines for Industrial Power." In his paper Mr. Perry pointed out the differences in requirements of plants designed only for power with plants in which process steam is required. He emphasized the need for further standardization in the design of steam turbines and answered numerous questions from the audience on this point.

Considerable audience discussion and questioning took place throughout the entire meeting indicating the importance of the subject material and the interest of the large group of engineers present.

The technical session adjourned at 5:30 P. M. for a social hour at the Leopard Hotel which had been thoughtfully provided for by the host mill. After the dinner which followed the group was addressed by Professor Lowell Besley, head of the Department of Forestry, University of British Columbia. Professor Besley who before coming to the University of British Columbia had spent several years in forestry work in West Virginia, gave a talk on "The Hardwood Forests of West Virginia."

Professor Besley described this little known but important area in a highly interesting manner, interjecting frequent examples of Yankee humor. The meeting was adjourned at 9:00 P. M. by Chairman Harold C. Wall.

Pacific TAPPI's next meeting will be held on Nov. 16, 1948, 2:00 P. M. at Camas, Washington. A comprehensive study of "Slime Control in Pulp and Paper Mills" is being prepared by Dr. W. F. Holzer, Crown Zellerbach Corp., Vice-Chairman of Pacific Section and Dr. Glen King also of Crown Zellerbach Corp., who will act as program moderator.

Those present included: Carl Adolphson, D. W. Altwein, Roy Anderson, R. B. Beal, W. H. Bergman, Lowell Besley, John W. Best, Myron W. Black, Carl E. Braun, F. C. Brown, Ivan D. Campbell C. H. Carter, H. D. Cavin, D. C. Chads, Frederick B. Chamberlin, Lee F. Chaney, R. E. Chase, E. Christoferson, Sidney M. Collier, E. S. Constant, Eric R. Craig, Gordon Curzon, Arthur Dammann, W. B. Donaldson, Jr., R. E. Draper, E. Ekholm, E. O. Ericsson, Fred R. Foley, D. C. Fulton, William R. Gibson, Fred Gilmore, George A. Gladding, V. C. Haner, R. S. Hatch, H. A. Hauff, L. E. Hill, Jr., W. F. Holzer, Otto Hudrlik, Richard N. Hughes, James H. Hull, L. M. Johnson, Donald T. Keller, L. C. Kelley, Richard L. Kettenring, George J. Kipper, W. Kullrich, Fairman B. Lee, W. J. Mandley, Robert A. Martin, J. L. McClintock, Jr., W. A. McKenzie, O. P. Morgan, Warren Mowry, Charles P. Murray, Edwin T. Naden, Max R. Oberdorfer, R. V. Pazina, Donald A. Pearson, H. M. Perry, H. B. Peterset, Carl Ramstad, Don Reed, Edward H. Reincke, Vance L. Reynolds, C. D. Ries, John E. Robison, Cliff M. Rogers, Oliver E. Ronken, H. A. Rose, J. P. Rubush, Mr. Sherman, Sid Silverstone, R. L. Simmonds, W. A. Smith, Chas, Stehman, W. O. Stevens, Virgil Sutherling, Peter P. Taranoff, R. I. Thieme, R. M. True, L. Turcotte, H. C. Wall, C. H. E. Williams, R. P. Wollenberg.